

Service Manual

Pioneer
TOYOTA

ORDER NO.
CRT2722

LEXUS LS430 **AUDIO SYSTEM** **HEAD UNIT**

VEHICLE	DESTINATION	PRODUCED AFTER	TOYOTA PART No.	ID No.	PIONEER MODEL No.
LEXUS LS430	EUROPE	August 2001	86120-5A130	P3913	FX-MG9606ZT/EW
LEXUS LS430	EUROPE	August 2001	86120-5A140	P3913	FX-MG9606ZT-91/EW
LEXUS LS430	OVERSEAS	August 2001	86120-5A150	P7805	FX-MG9606ZT/ES
LEXUS LS430	OVERSEAS	August 2001	86120-5A160	P7805	FX-MG9606ZT-91/ES

- This service manual should be used together with the manual(s) listed below.

For the parts numbers, adjustments, etc. which are not shown in this manual, refer to the following manual(s).

Model No.	Order No.	Mech. Module	Remarks
FX-MG9106ZT/EW	CRT2540		
CX-631	CRT1640	2L	Cassette Mech. Module: Mech. Description, Disassembly
CX-890	CRT2376	G1	CD Mech. Module: Circuit Description, Mech. Description, Disassembly

EXPLODED VIEWS AND PARTS LIST

EXTERIOR(Page 9)

● EXTERIOR SECTION PARTS LIST

Mark No.	Symbol and Description	Part No.		
		FX-MG9106ZT/EW	FX-MG9606ZT/EW	FX-MG9606ZT-91/EW
3	Screw	BMZ50P080FMC	BMZ50P080FMC	Not used
10	Main Unit	CWM6854	CWM7998	CWM7998
60	Grille Unit	CXB6902	CXB7709	CXB7709
61	Door	CAT2154	CAT2274	CAT2274
79	86208-50010	CXB6031	CXB6031	Not used
80	86207-50010	CXB6032	CXB6032	Not used

EXTERIOR(Page 13)

● EXTERIOR SECTION PARTS LIST

Mark No.	Symbol and Description	Part No.		
		FX-MG9106ZT/ES	FX-MG9606ZT/ES	FX-MG9606ZT-91/ES
3	Screw	BMZ50P080FMC	BMZ50P080FMC	Not used
60	Grille Unit	CXB6943	CXB7706	CXB7706
61	Door	CAT2159	CAT2271	CAT2271
79	86208-50010	CXB6031	CXB6031	Not used
80	86207-50010	CXB6032	CXB6032	Not used

- Supplementary model is identical to the original except for the addition of following items.

Description	Part No.	
	FX-MG9606ZT-91/EW	FX-MG9606ZT-91/ES
Polyethylene Bag	CEG1026	CEG1026
Carton	CHA4422	CHA4422
Contain Box	CHL4422	CHL4422
Protector	CHP2319	CHP2319
Protector	CHP2320	CHP2320

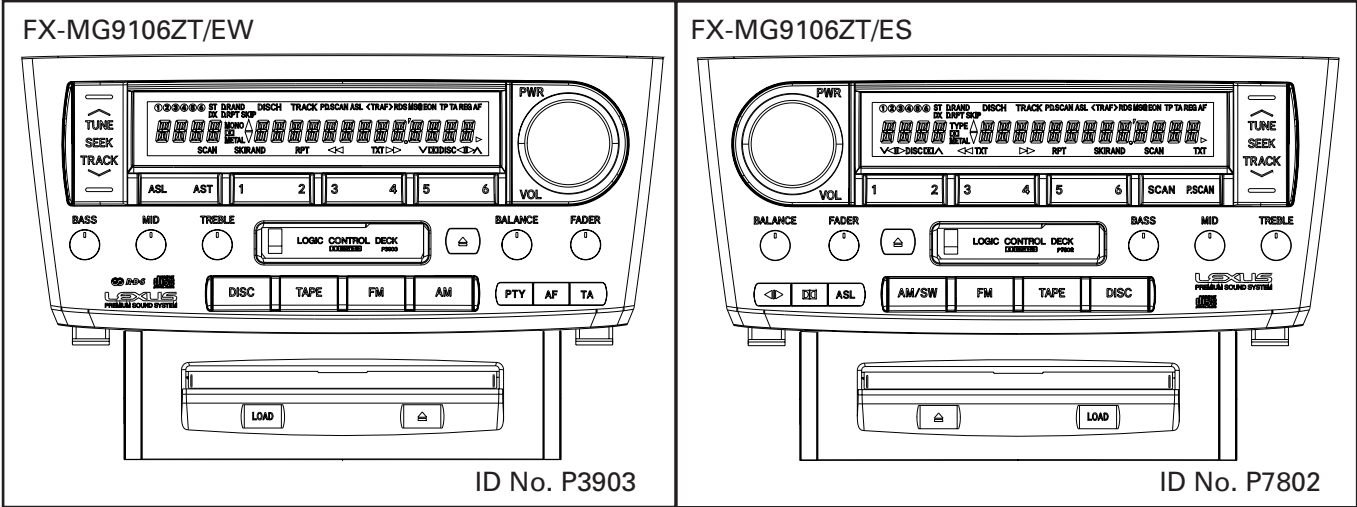
Service Manual

Pioneer
TOYOTA

ORDER NO.
CRT2540

LEXUS LS430 **AUDIO SYSTEM** **HEAD UNIT**

VEHICLE	DESTINATION	PRODUCED AFTER	ID No.	TOYOTA PART No.	PIONEER MODEL No.
LEXUS LS430	EUROPE	August 2000	P3903	86120-50690	FX-MG9106ZT/EW FX-MG9106ZT-91/EW
LEXUS LS430	MIDDLE EAST	August 2000	P7802	86120-50700	FX-MG9106ZT/ES FX-MG9106ZT-91/ES



NOTE:

- FX-MG9106ZT-91/EW and FX-MG9106ZT-91/ES are supplementary genuine part for a TOYOTA vehicle, and a Pioneer product for recycling stock.
- Supplementary model is identical to the original except for the addition of following items.

Description	Part No.	
	FX-MG9106ZT-91/EW	FX-MG9106ZT-91/ES
Polyethylene Bag	CEG1026	CEG1026
Carton	CHG4120	CHG4120
Contain Box	CHL4126	CHL4129
Protector	CHP2319,2320	CHP2319,2320

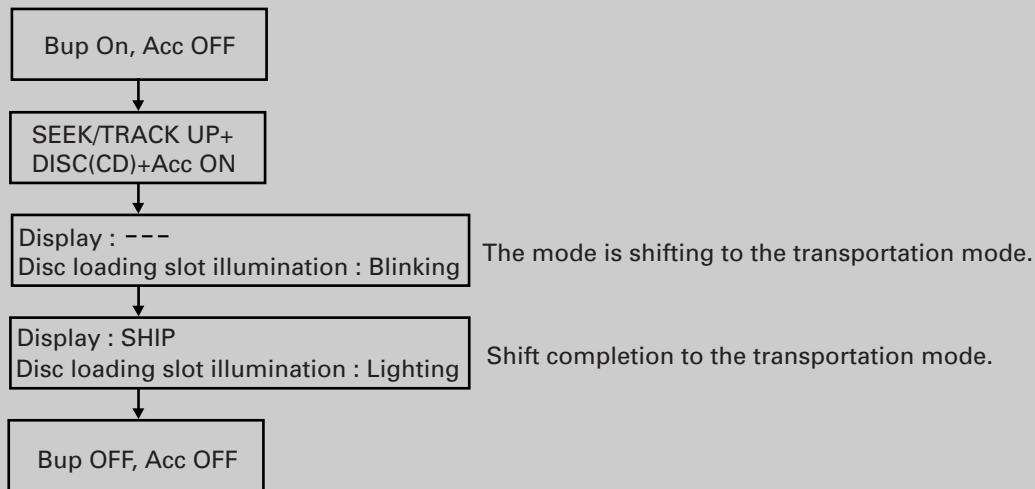
- This service manual should be used together with the following manual(s):

Model	Order No.	Mech. Module	Remarks
CX-890	CRT2376	G1	CD Mechanism Module:Circuit Description, Mech.Description, Disassembly
CX-631	CRT1640	2L	Cassette Mech. Module:Mech.Description, Disassembly

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- CD Player Service Precautions
 1. For pickup unit(CXX1313) handling, please refer to"Disassembly"(see page 83).
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
 2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
 3. Please checking the grating after changing the service pickup unit(see page 70).

● When the Repair is Complete

When the repair is complete, make the CD mechanism ready for transportation.



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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

1. Safety Precautions for those who Service this Unit.

- When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

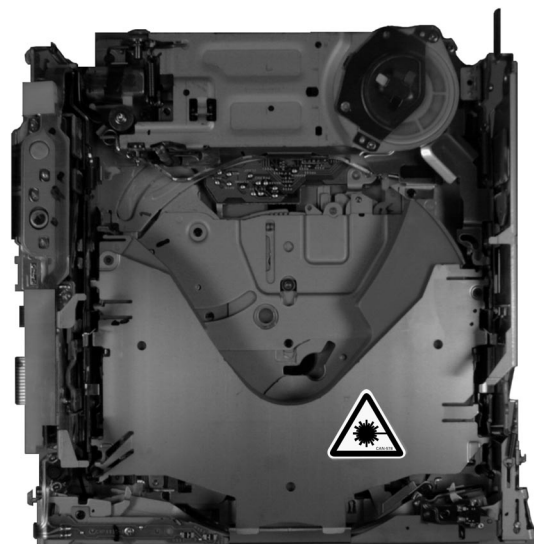
Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
2. During repair or tests, do not view laser beam for 10 seconds or longer.

2. A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.



3. The triangular label is attached to the mechanism unit holder.

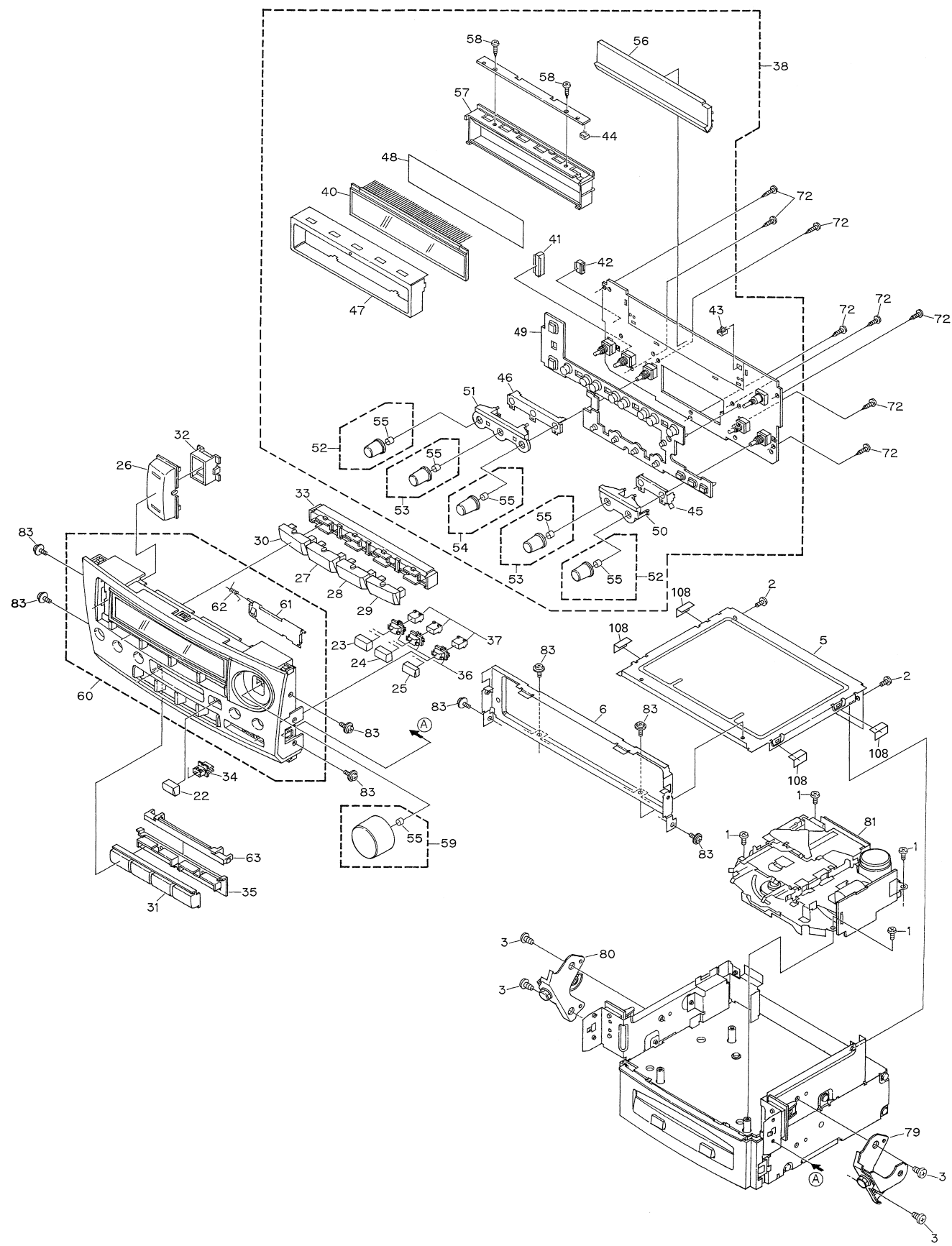


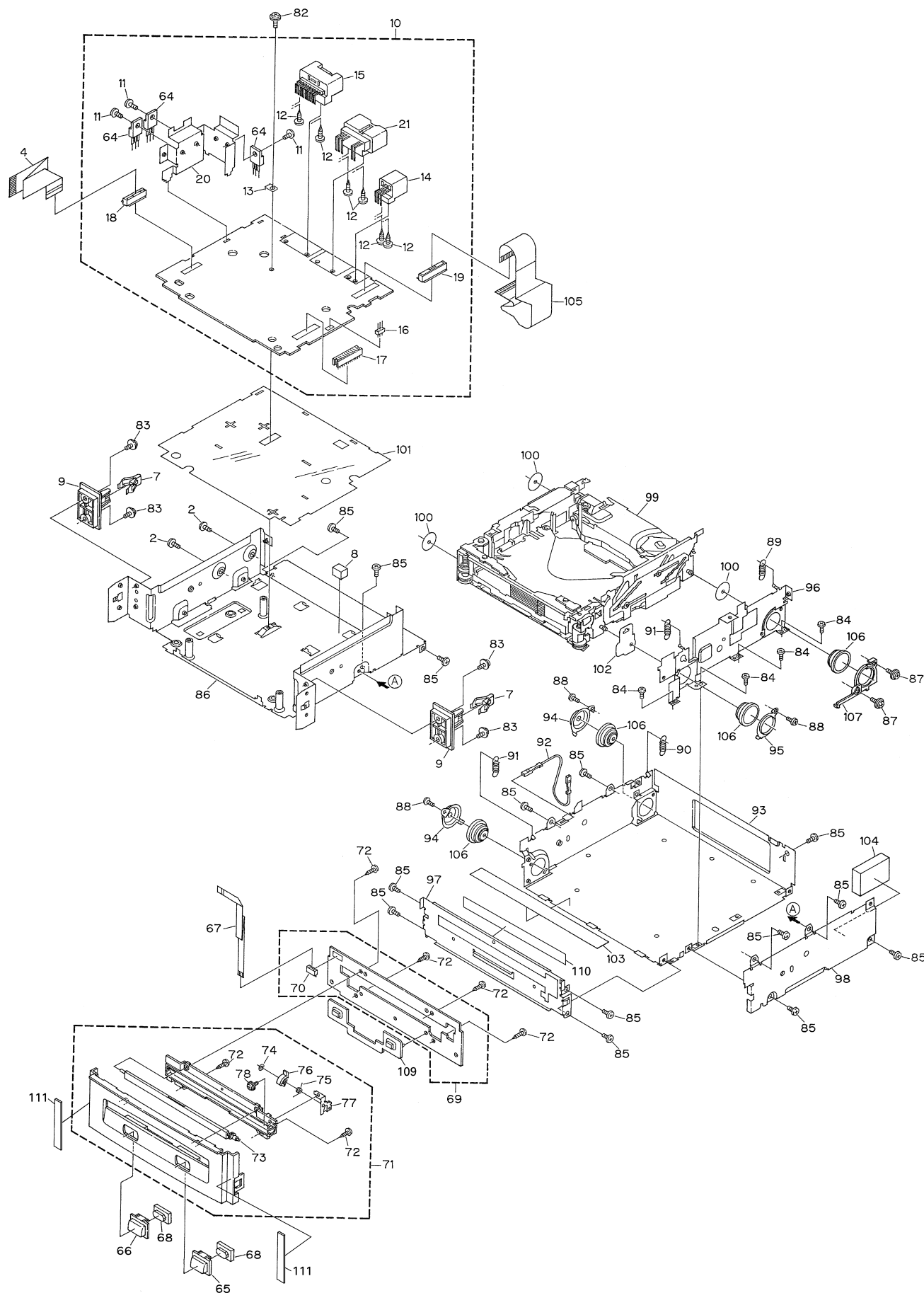
4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.

Wavelength = 800 nanometers

2.2 EXTERIOR (FX-MG9106ZT/EW)





NOTE:

- Parts marked by “*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▽ mark on the product are used for disassembly.

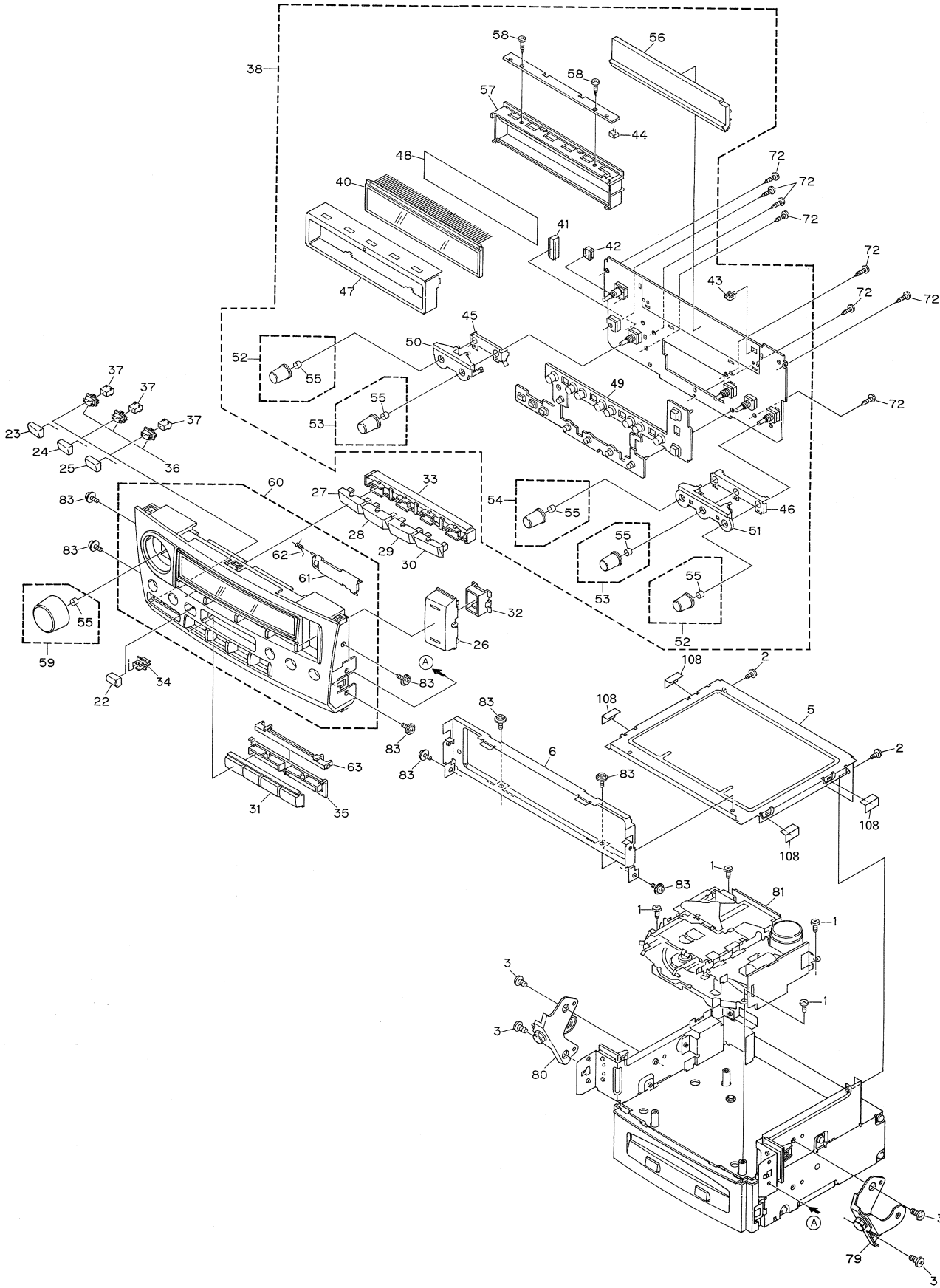
● EXTERIOR SECTION PARTS LIST (FX-MG9106ZT/EW)

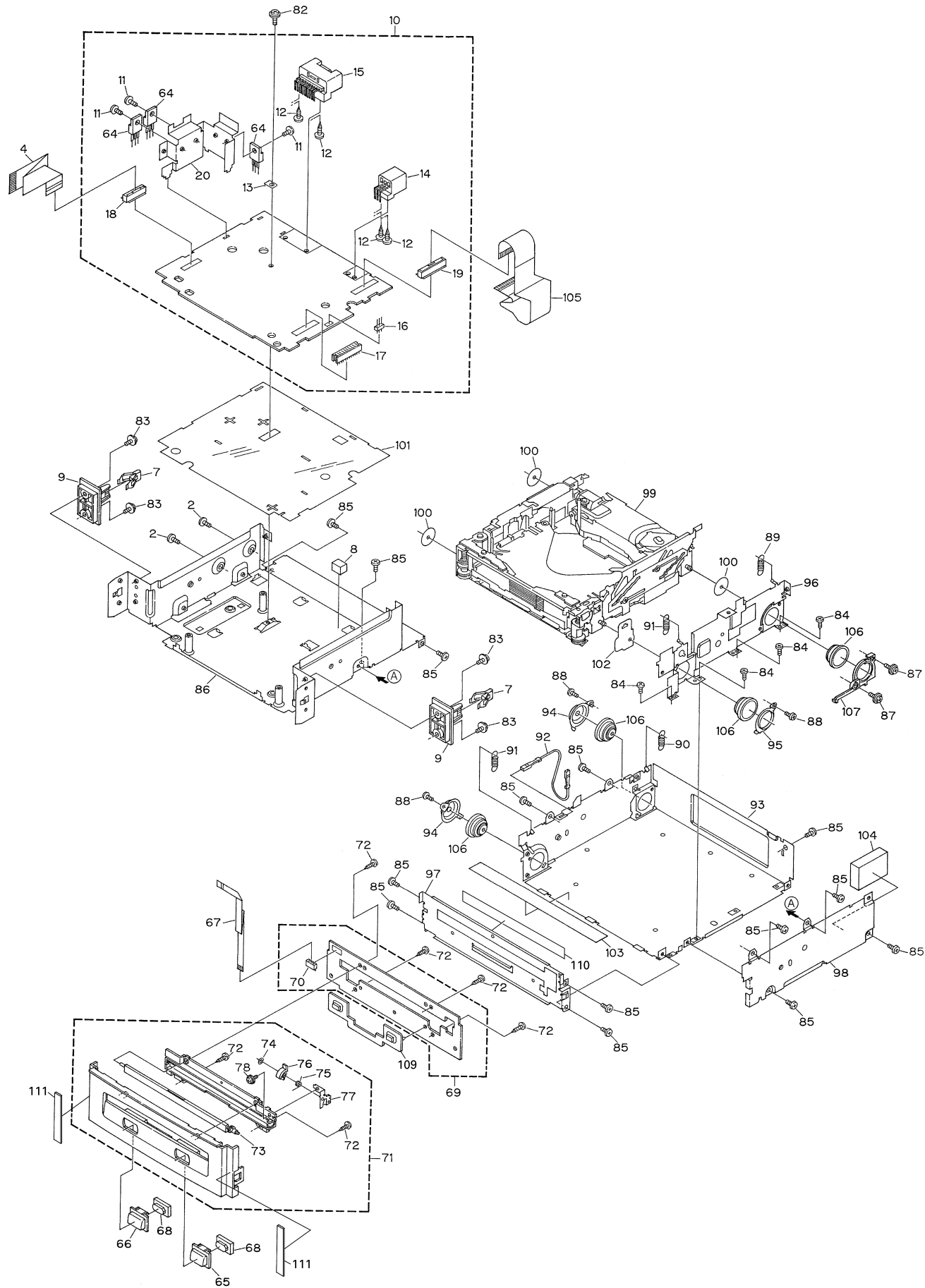
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ26P040FMC	46	Holder	CNC8778
2	Screw	BMZ26P050FMC	47	Holder	CNC8798
3	Screw(#1)	BMZ50P080FMC	48	Plate	CNM6841
4	Connector	CDE6172	49	Rubber	CNV5677
5	Case	CNB2425	50	Lighting Conductor Unit	CXB6863
6	Holder	CNC8462	51	Lighting Conductor Unit	CXB7029
7	90468-04191	CNC9048	52	Knob Unit	CXB6905
8	Cushion	CNM6917	53	Knob Unit	CXB6906
9	Guide	CNV6044	54	Knob Unit	CXB6907
10	Main Unit	CWM6854	55	Spring	CBL-108
11	Screw	BMZ30P060FMC	56	Lighting Conductor Unit	CXB6820
12	Screw(M3x6)	CBA1393	57	Holder	CNV5892
13	Terminal(CN806)	CKF1059	58	Screw	BPZ20P050FMC
14	Connector(CN802)	CKM1315	59	Knob Unit	CXB4348
15	Connector(CN801)	CKM1322	60	Grille Unit	CXB6902
16	Plug(CN303)	CKS-291	61	Door	CAT2154
17	Connector(CN301)	CKS3568	62	Spring	CBH1371
18	Connector(CN804)	CKS3751	63	Lighting Conductor Unit	CXB5991
19	Connector(CN701)	CKS3930	64	Transistor(Q809,811,812)	2SB1185
20	Holder	CNC8163	65	Button(EJECT)	CAC5969
21	Connector(CN803)	CKM1065	66	Button(LOAD)	CAC5968
22	Button(EJECT)	CAC6219	67	Connector	CDE6292
23	Button(PHY)	CAC6366	68	Lighting Conductor	CNV6638
24	Button(AF)	CAC6365	69	SW Unit	CWM6872
25	Button(TA)	CAC6364	70	Connector(CN905)	CKS4354
26	Button(TUNE,SEEK,TRACK)	CAC6367	71	Grille Unit	CXB6927
27	Button(1,2)	CAC6225	72	Screw	BPZ20P080FMC
28	Button(3,4)	CAC6226	73	Door	CAT2151
29	Button(5,6)	CAC6227	74	Washer	CBF1037
30	Button(ASL,AST)	CAC6368	75	Spring	CBH2339
31	Button(DISC,TAPE,FM,AM)	CAC6215	76	Gear	CNV6116
32	Holder	CNV5888	77	Bracket Unit	CXB5254
33	Holder	CNV5889	78	Screw	IMS20P030FMC
34	Holder	CNV5890	79	86208-50010(#1)	CXB6031
35	Holder Unit	CXB6908	80	86207-50010(#1)	CXB6032
36	Holder	CNV5896	81	Cassette Mechanism Module	EXK3885
37	Lighting Conductor	CNV6182	82	Screw	ISS26P050FMC
38	Keyboard Unit	CWM6864	83	Screw	ISS26P060FMC
39		84	Screw	BMZ20P020FMC
40	LCD	CAW1582	85	Screw	BMZ26P030FMC
41	Connector(CN902)	CKS3751	86	Chassis Unit	CXB3549
42	Connector(CN903)	CKS4354	87	Screw	IMS20P040FMC
43	Connector(CN906)	CKS4393	88	Screw(M2x2)	CBA1250
44	Connector(CN907)	CKS4394	89	Spring	CBH2361
45	Holder	CNC8777	90	Spring	CBH2365

#1) Not used to supplementary model.

Mark	No.	Description	Part No.
	91	Spring Uint	CXB6850
	92	Connector	CDE6302
	93	Chassis	CNA2131
	94	Holder	CNC7477
	95	Holder	CNC7826
	96	Holder	CNC8160
	97	Holder	CNC8161
	98	Holder	CNC8162
	99	Mechanism Assy(Service)	CXX1430
	100	Sheet	CNM5981
	101	Insulator	CNM7141
	102	Sheet	CNM6318
	103	Insulator	CNM6410
	104	Cushion	CNM6927
	105	PCB	CNP5399
	106	Damper	CNV5120
	107	Holder	CNV5543
*	108	Seal	CNM5714
	109	Rubber	CNV6596
	110	Spacer	CNM7140
	111	Spacer	CNM7179

2.2 EXTERIOR (FX-MG9106ZT/ES)





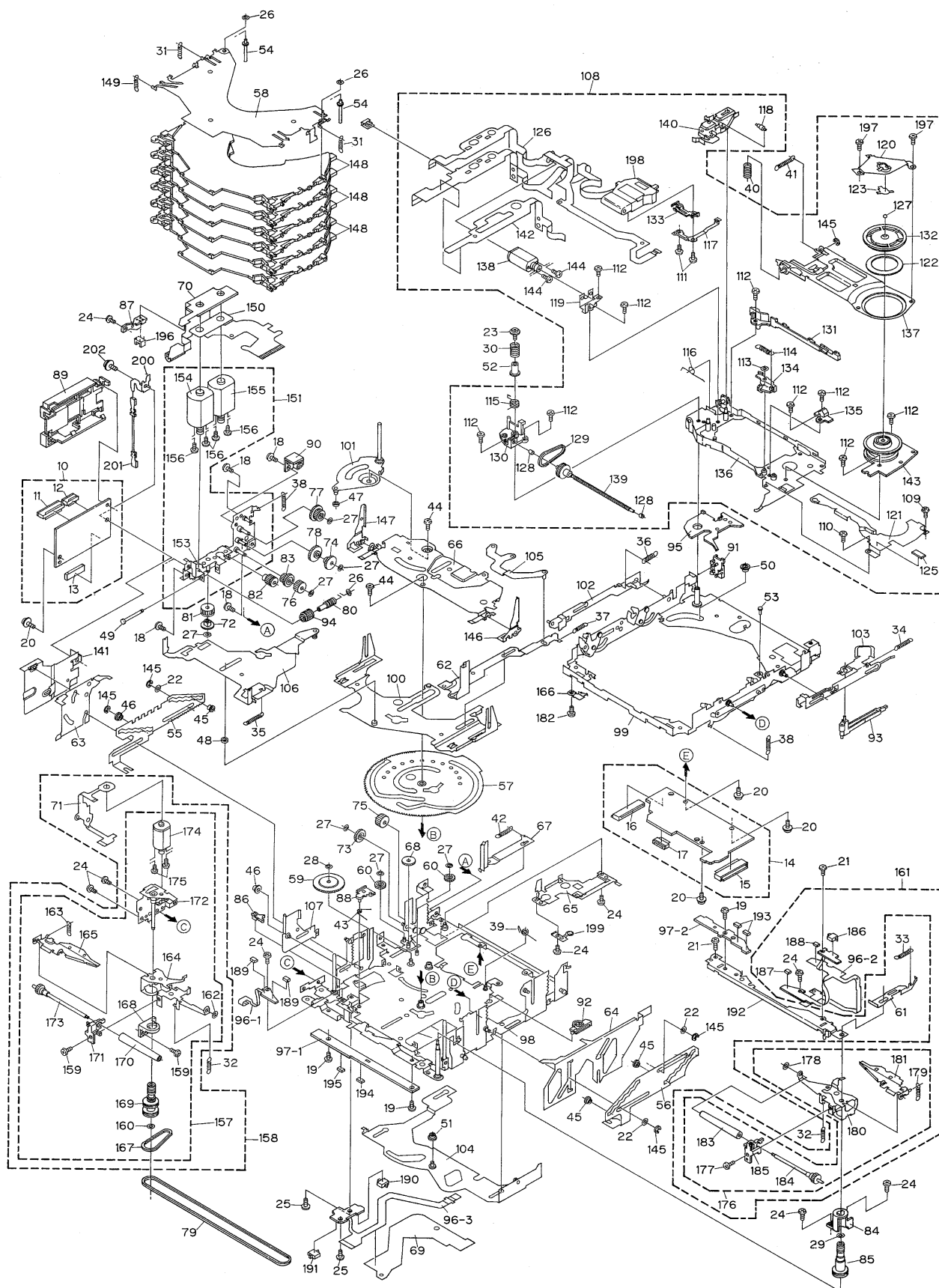
● EXTERIOR SECTION PARTS LIST (FX-MG9106ZT/ES)

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1	Screw	BMZ26P040FMC	46	Holder	CNC8778
2	Screw	BMZ26P050FMC	47	Holder	CNC8798
3	Screw(#1)	BMZ50P080FMC	48	Plate	CNM6841
4	Connector	CDE6172	49	Rubber	CNV5678
5	Case	CNB2533	50	Lighting Conductor Unit	CXB7028
6	Holder	CNC8462	51	Lighting Conductor Unit	CXB7030
7	90468-04191	CNC9048	52	Knob Unit	CXB6905
8	Cushion	CNM6917	53	Knob Unit	CXB6906
9	Guide	CNV6044	54	Knob Unit	CXB6907
10	Main Unit	CWM6855	55	Spring	CBL-108
11	Screw	BMZ30P060FMC	56	Lighting Conductor Unit	CXB6820
12	Screw(M3x6)	CBA1393	57	Holder	CNV5892
13	Terminal(CN806)	CKF1059	58	Screw	BPZ20P050FMC
14	Connector(CN802)	CKM1315	59	Knob Unit	CXB4348
15	Connector(CN801)	CKM1322	60	Grille Unit	CXB6943
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17	Connector(CN301)	CKS3568	62	Spring	CBH1371
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20	Holder	CNC8163	65	Button(LOAD)	CAC5968
21		66	Button(EJECT)	CAC5969
22	Button(EJECT)	CAC6219	67	Connector	CDE6292
23	Button(◀▶)	CAC6389	68	Lighting Conductor	CNV6638
24	Button(□)	CAC6390	69	SW Unit	CWM6872
25	Button(PHY)	CAC6391	70	Connector(CN905)	CKS4354
26	Button(TUNE,SEEK,TRACK)	CAC6378	71	Grille Unit	CXB6927
27	Button(1,2)	CAC6379	72	Screw	BPZ20P080FMC
28	Button(3,4)	CAC6380	73	Door	CAT2151
29	Button(5,6)	CAC6381	74	Washer	CBF1037
30	Button(SCAN,P.SCAN)	CAC6392	75	Spring	CBH2339
31	Button(AM/SW,FM,TAPE,DISC)	CAC6388	76	Gear	CNV6116
32	Holder	CNV5888	77	Bracket Unit	CXB5254
33	Holder	CNV5889	78	Screw	IMS20P030FMC
34	Holder	CNV5890	79	86208-50010(#1)	CXB6031
35	Holder Unit	CXB6908	80	86207-50010(#1)	CXB6032
36	Holder	CNV5896	81	Cassette Mechanism Module	EXK3885
37	Lighting Conductor	CNV6182	82	Screw	ISS26P050FMC
38	Keyboard Unit	CWM6865	83	Screw	ISS26P060FMC
39		84	Screw	BMZ20P020FMC
40	LCD	CAW1591	85	Screw	BMZ26P030FMC
41	Connector(CN902)	CKS3751	86	Chassis Unit	CXB3549
42	Connector(CN903)	CKS4354	87	Screw	IMS20P040FMC
43	Connector(CN906)	CKS4393	88	Screw(M2x2)	CBA1250
44	Connector(CN907)	CKS4394	89	Spring	CBH2361
45	Holder	CNC8777	90	Spring	CBH2365

#1) Not used to supplementary model.

Mark	No.	Description	Part No.
	91	Spring Uint	CXB6850
	92	Connector	CDE6302
	93	Chassis	CNA2131
	94	Holder	CNC7477
	95	Holder	CNC7826
	96	Holder	CNC8160
	97	Holder	CNC8161
	98	Holder	CNC8162
	99	Mechanism Assy(Service)	CXX1430
	100	Sheet	CNM5981
	101	Insulator	CNM7141
	102	Sheet	CNM6318
	103	Insulator	CNM6410
	104	Cushion	CNM6927
	105	PCB	CNP5399
	106	Damper	CNV5120
	107	Holder	CNV5543
*	108	Seal	CNM5714
	109	Rubber	CNV6596
	110	Spacer	CNM7140
	111	Spacer	CNM7179

2.3 CD MECHANISM

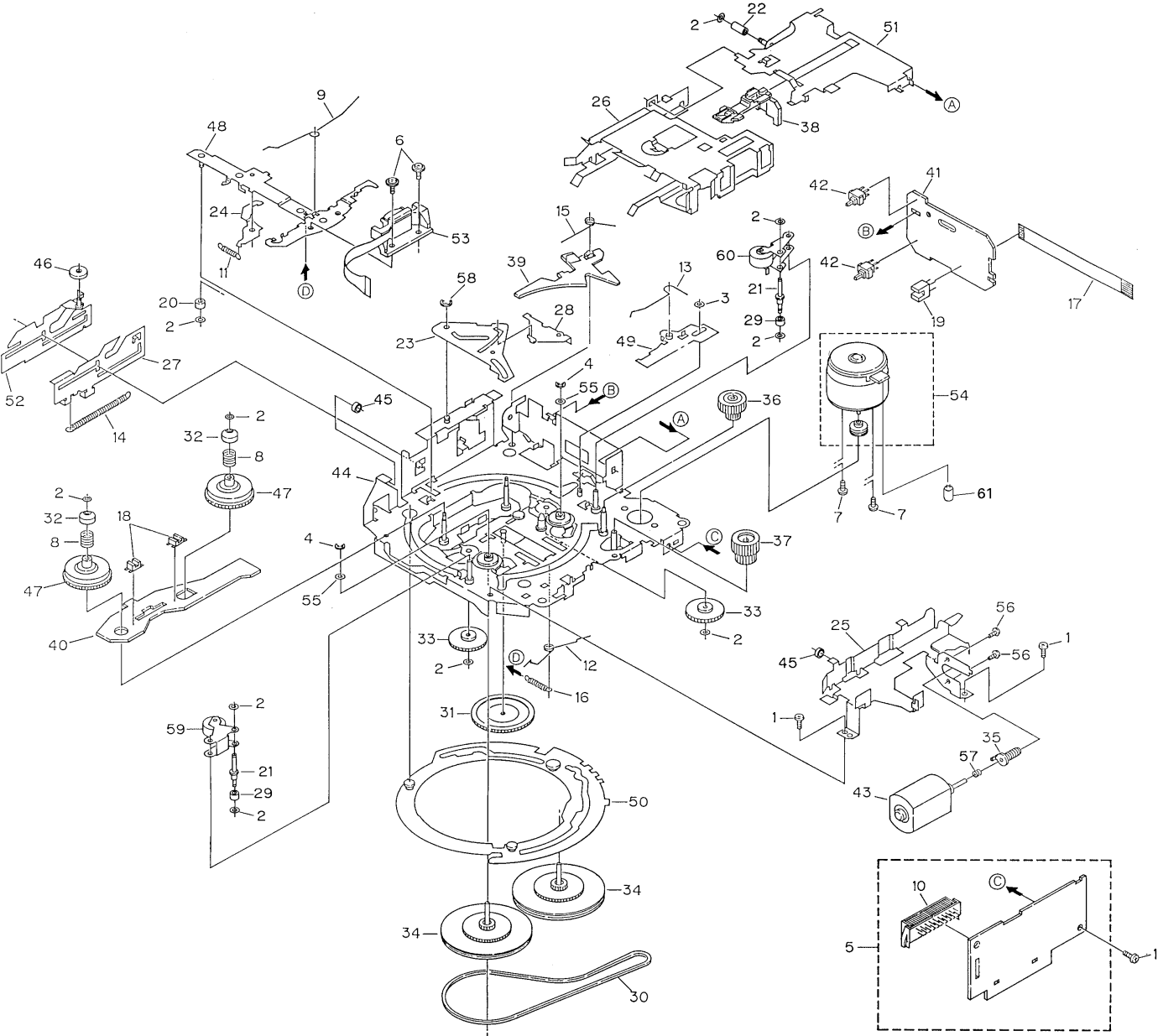


● CD MECHANISM SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1-9	●●●●●		59	Gear	CNC7236
10	CD Core Unit(Servo Unit)	CWX2421	60	Gear	CNC8883
11	Connector(CN101)	CKS2764	61	Lever	CNC7243
12	Connector(CN301)	CKS3966	62	Lever	CNC7244
13	Connector(CN201)	CKS3991	63	Lever	CNC7245
14	CD Core Unit(STS Unit)	CWX2422	64	Lever	CXB4944
15	Connector(CN701)	CKS3989	65	Cover	CNC7441
16	Connector(CN801)	CKS3989	66	Holder Unit	CXB4946
17	Connector(CN802)	CKS4054	67	Lever	CNC9088
18	Screw	CBA1037	68	Gear	CNC8140
19	Screw	CBA1041	69	Sheet	CNM6840
20	Screw	CBA1076	70	PCB	CNP5764
21	Screw	CBA1250	71	PCB	CNP6010
22	Washer	CBA1512	72	Gear	CNR1479
23	Screw	CBA1452	73	Gear	CNR1481
24	Screw	CBA1453	74	Gear	CNR1495
25	Screw	CBA1479	75	Gear	CNR1501
26	Washer	CBF1037	76	Gear	CNR1502
27	Washer	CBF1038	77	Gear	CNR1540
28	Washer	CBF1039	78	Gear	CNR1541
29	Washer	CBF1064	79	Belt	CNT1080
30	Spring	CBH2007	80	Worm Gear	CNV5046
31	Spring	CBH2271	81	Gear	CNV5047
32	Spring	CBH2274	82	Gear	CNV5048
33	Spring	CBH2014	83	Gear	CNV5049
34	Spring	CBH2015	84	Holder	CNV5056
35	Spring	CBH2016	85	Pulley	CNV5058
36	Spring	CBH2017	86	Arm	CNV5061
37	Spring	CBH2290	87	Spacer	CNV5066
38	Spring	CBH2366	88	Arm	CNV5189
39	Spring	CBH2064	89	Cover	CNV5207
40	Spring	CBH2195	90	Cover	CNV5424
41	Spring	CBH2196	91	Cover	CNV5425
42	Spring	CBH2224	92	Lever	CNV5427
43	Spring	CBH2250	93	Arm	CNV5491
44	Screw	CBA1082	94	Gear	CNV5519
45	Roller	CLA3154	95	Holder	CNV5648
46	Roller	CLA3157	96	Composite PCB	CNX3327
47	Roller	CLA3159	97	Composite PCB	CNX2989
48	Roller	CLA3160	98	Chassis Unit	CXB5940
49	Shaft	CLA3179	99	Frame Unit	CXB5806
50	Spacer	CLA3194	100	Lever Unit	CXB6026
51	Roller	CLA3248	101	Arm Unit	CXB2704
52	Bush	CLA3353	102	Lever Unit	CXB2708
* 53	Shaft	CLA3469	103	Lever Unit	CXB2709
54	Shaft	CLA3693	104	Lever Unit	CXB4949
55	Steer	CNC7215	105	Arm Unit	CXB2712
56	Steer	CNC7216	106	Lever Unit	CXB4948
57	Cam	CNC8774	107	Lever Unit	CXB2714
* 58	Holder	CNC7235	108	Carriage Mechanism Unit(G1)	CXB4941

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	109	Screw	CBA1041		159	Screw	CBA1453
	110	Screw	CBA1250		160	Washer	CBF1038
	111	Screw	CBA1362		161	Loading Arm R Assy(Service)	CXX1457
	112	Screw	CBA1471		162	Washer	CBF1074
	113	Washer	CBF1038		163	Spring	CBH2136
	114	Spring	CBH2008	*	164	Arm	CNC7241
	115	Spring	CBH2009	*	165	Arm	CXB4449
	116	Spring	CBH2010		166	Holder	CBL1508
	117	Spring	CBL1335		167	Belt	CNT1079
	118	Roller	CLA3913		168	Holder	CNV5055
*	119	Bracket	CNC7228		169	Pulley	CNV5057
	120	Guide Unit	CXB4417		170	Roller	CNV6209
	121	Cover	CNC7628		171	Guide	CNV5125
	122	Sheet	CNM6414	*	172	Bracket Unit	CXB5937
	123	Sheet	CNM5378		173	Roller Gear Unit	CXB3176
	124	•••••		*	174	Motor Unit(M2 LOAD)	CXB3177
	125	Sheet	CNM5827		175	Screw	JFZ14P020FMC
	126	PCB	CNP4978		176	Loading Arm R Assy	CXB5839
	127	Ball	CNR1189		177	Screw	CBA1453
	128	Bearing	CNR1423		178	Washer	CBF1074
	129	Belt	CNT1079		179	Spring	CBH2136
	130	Holder	CNV5037	*	180	Arm	CNC7242
	131	Guide	CNV5040	*	181	Arm	CXB5822
	132	Clamper	CNV5042		182	Screw	JFZ20P014FMC
	133	Rack	CNV5111		183	Roller	CNV6209
	134	Arm	CNV5579		184	Roller Gear Unit	CXB3176
	135	Holder	CNV5759		185	Guide	CNV5126
*	136	Chassis	CXB6025		186	Switch(S885 MAX DETECT)	CSN1052
	137	Arm Unit	CXB2705		187	LED(D883)	CL202IRXTU
	138	Motor Unit(M4 CARRIAGE)	CXB3178		188	Photo-transistor(Q881)	CPT230SCTD
	139	Screw Unit	CXB3179		189	LED(D891,892)	CL202IRXTU
	140	Lever Unit	CXB4450		190	Switch(S887 CLAMP)	CSN1051
	141	Bracket	CNC8584		191	Switch(S886 ELV HOME)	CSN1052
	142	Spacer	CNM6345		192	Bracket Unit	CXB6086
	143	Motor(M5 SPINDLE)	CXM1120		193	Photo-transistor(Q851,852)	CPT230SCTD
	144	Screw	JFZ14P020FZK		194	Resistor(R856)	RS1/8S911J
	145	Washer	YE15FUC		195	Resistor(R857)	RS1/8S821J
	146	Arm Unit	CXB6052		196	Photo-interrupter(Q1)	RPI-221
	147	Arm Unit	CXB6053		197	Screw	CBA1387
	148	Tray Assy	CXB4307		198	Pickup Unit(Service)(P8)	CXX1313
	149	Spring	CBH2269		199	Spring	CBL1467
	150	Sheet	CNM7109		200	Bracket	CNC8902
	151	Cam Motor Assy	CXB6928		201	Connector	CDE6302
	152	•••••			202	Screw	CBA1015
*	153	Bracket Unit	CXB5201				
*	154	Motor Unit(M1 Cam Gear)	CXB6929				
*	155	Motor Unit(M3 ELV)	CXB3175				
	156	Screw	JFZ20P025FMC				
	157	Loading Arm L Assy	CXB3171				
	158	Loading Arm L Assy(Service)	CXX1415				

2.4 CASSETTE MECHANISM MODULE

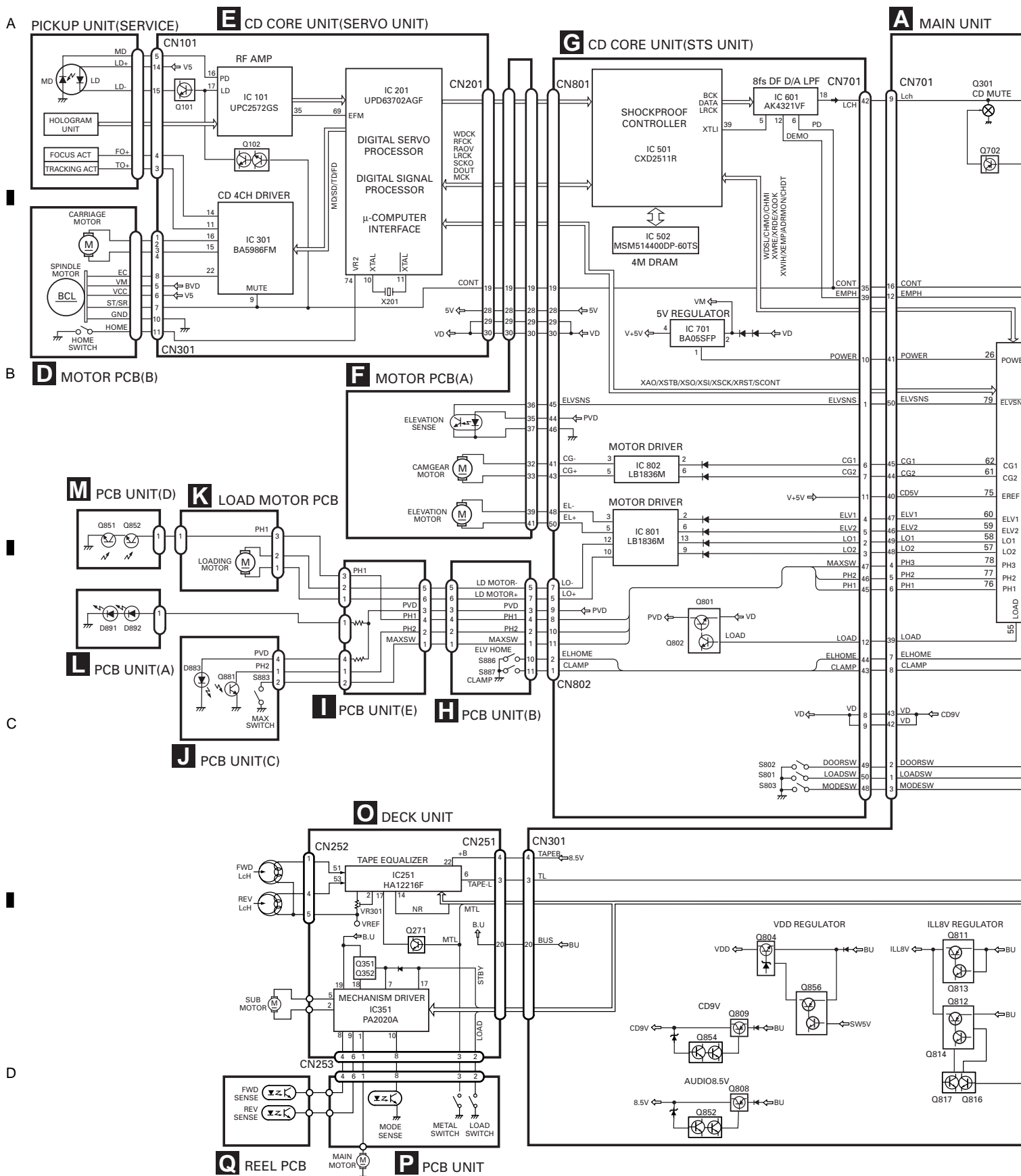


● CASSETTE MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC	31	Gear	ENV1347
2	Washer	CBF1037	32	Collar	ENV1508
3	Washer	CBF1038	33	Gear	ENV1350
4	Washer	CBG1003	34	Flywheel	ENV1500
5	Deck Unit	EWM1027	35	Worm Gear	ENV1439
6	Screw(M2x5)	EBA1028	36	Worm Wheel	ENV1440
7	Screw(M2x2.5)	EBA1037	37	Gear	ENR1037
8	Spring	EBH1531	38	Lever	ENV1533
9	Spring	EBH1589	39	Arm	ENV1525
10	Connector(CN251)	CKS3540	40	Gathering PCB	ENX1037
11	Spring	EBH1515	41	Gathering PCB	ENX1060
12	Spring	EBH1587	42	Switch(S1)(S2)	ESG1004
13	Spring	EBH1517	43	Motor Unit(M2)(SUB)	EXA1382
14	Spring	EBH1518	44	Chassis Unit	EXA1559
15	Spring	EBH1519	45	Tube	ENM1039
16	Spring	EBH1537	46	Roller	ENR1027
17	Cord	EDD1027	47	Reel Unit	EXA1560
18	Photo-interrupter(EGN2,3)	EGN1006	48	Head Base Unit	EXA1434
19	Photo-interrupter(EGN1)	EGN1005	49	Lever Unit	EXA1578
20	Roller	ENR1031	50	Gear Unit	EXA1545
21	Shaft	ELA1362	51	Frame Unit	EXA1476
22	Roller	ELA1348	52	Lever Unit	EXA1439
23	Arm	ENC1490	53	Head Assy(HD1)	EXA1594
24	Arm	ENC1397	54	Motor Unit(M1)(MAIN)	EXA1499
25	Guide	ENC1519	55	Washer	HBF-179
26	Holder	ENC1516	56	Screw	JGZ20P025FNI
27	Lever	ENC1448	57	Spring	EBH1545
28	Arm	ENC1488	58	Washer	YE20FUC
29	Roller	ENR1023	59	Pinch Roller Unit	EXA1533
30	Belt	ENT1027	60	Pinch Roller Unit	EXA1532
			61	Capacitor(C1)	CEAL4R7M35

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM (FX-MG9106ZT/EW)

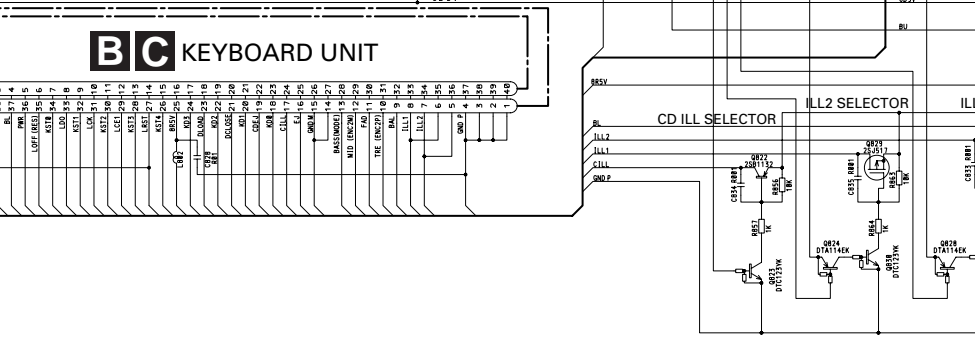
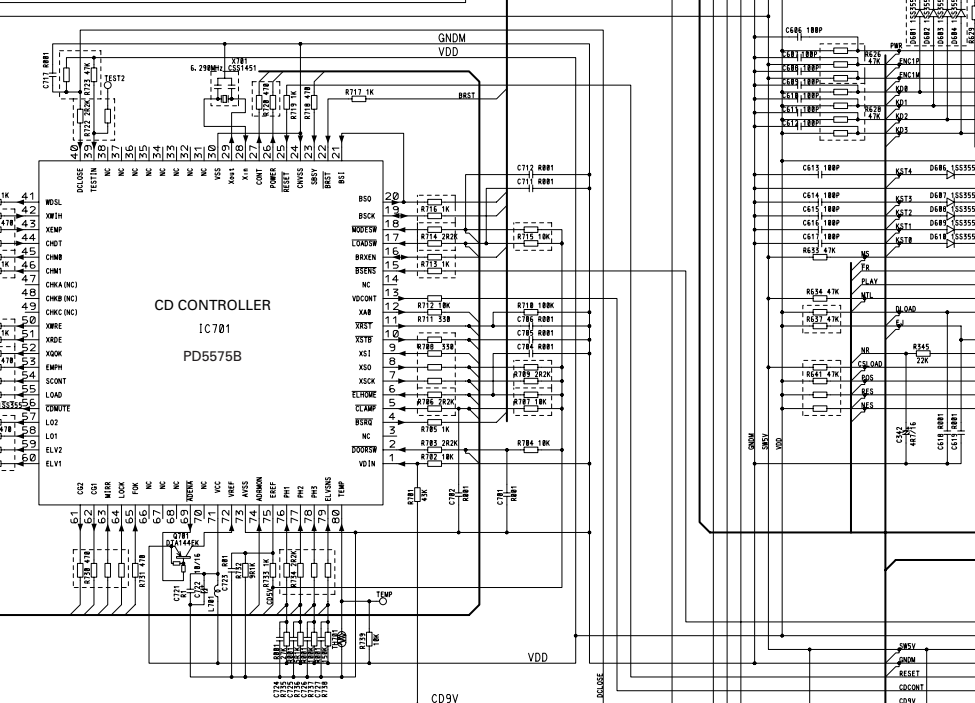
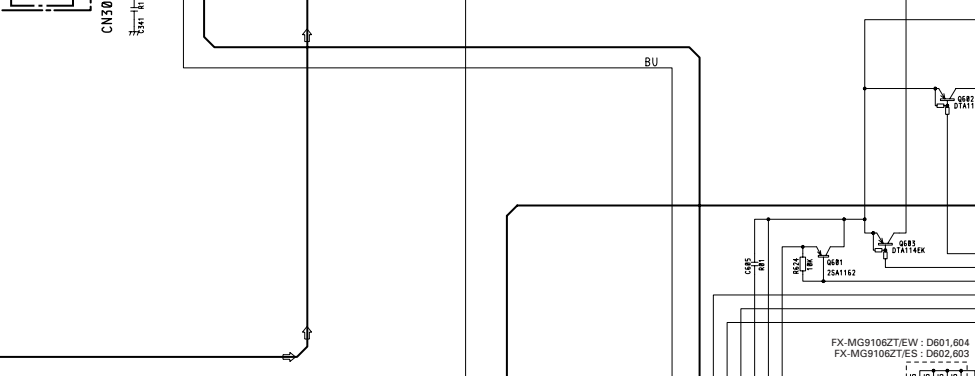
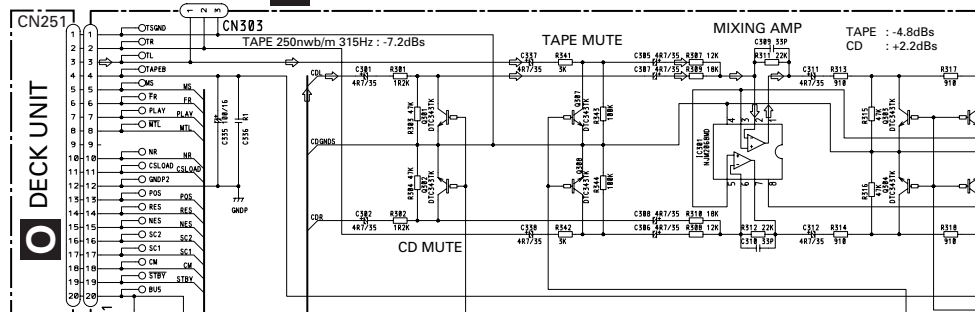


3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

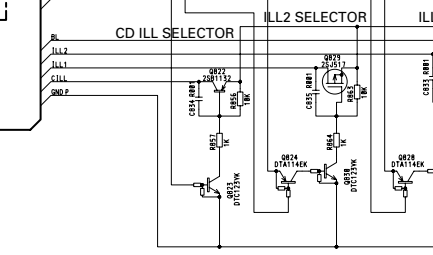
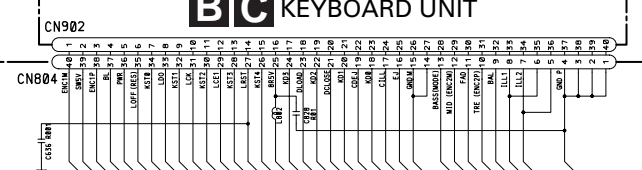
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A-a

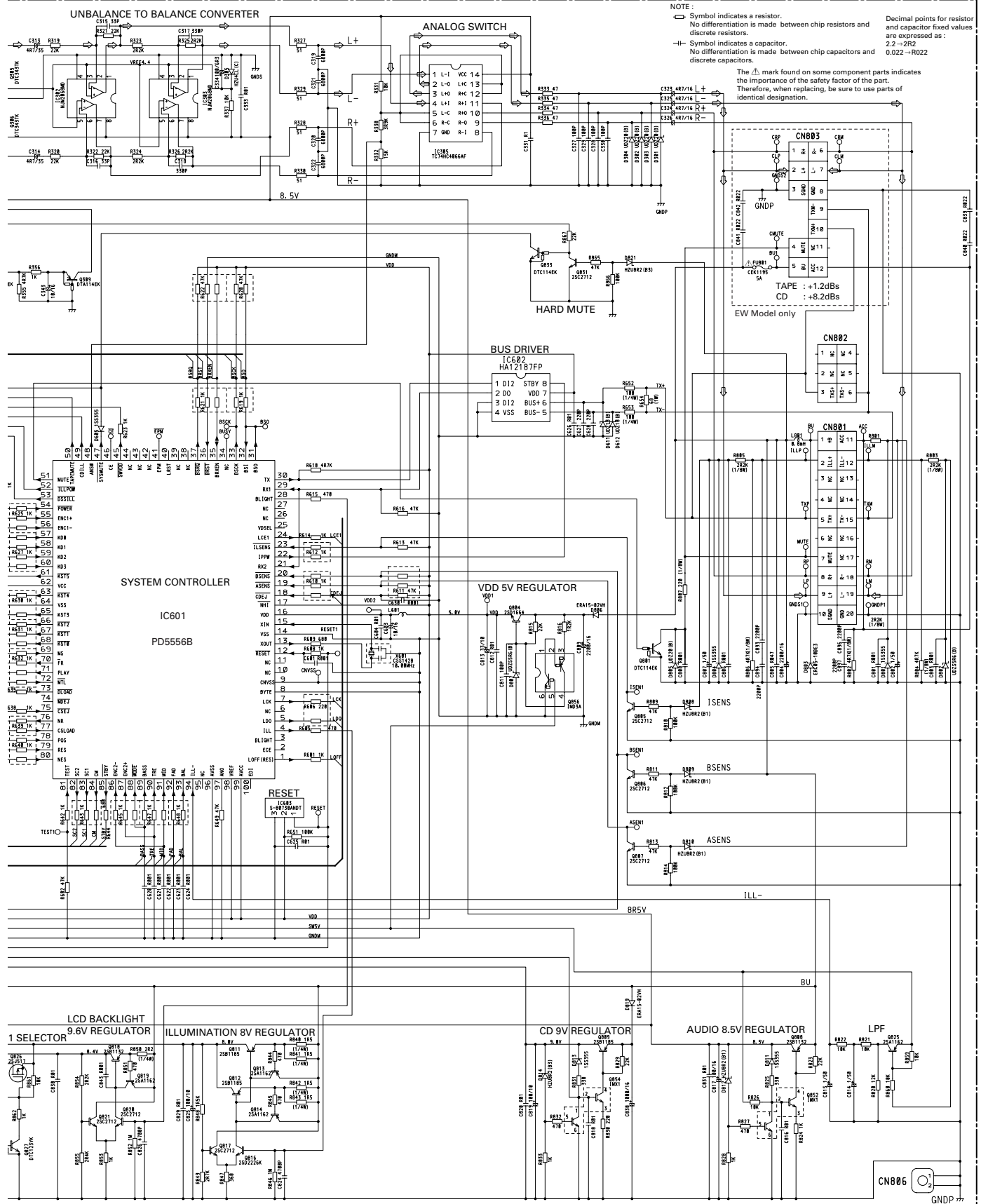
A MAIN UNIT

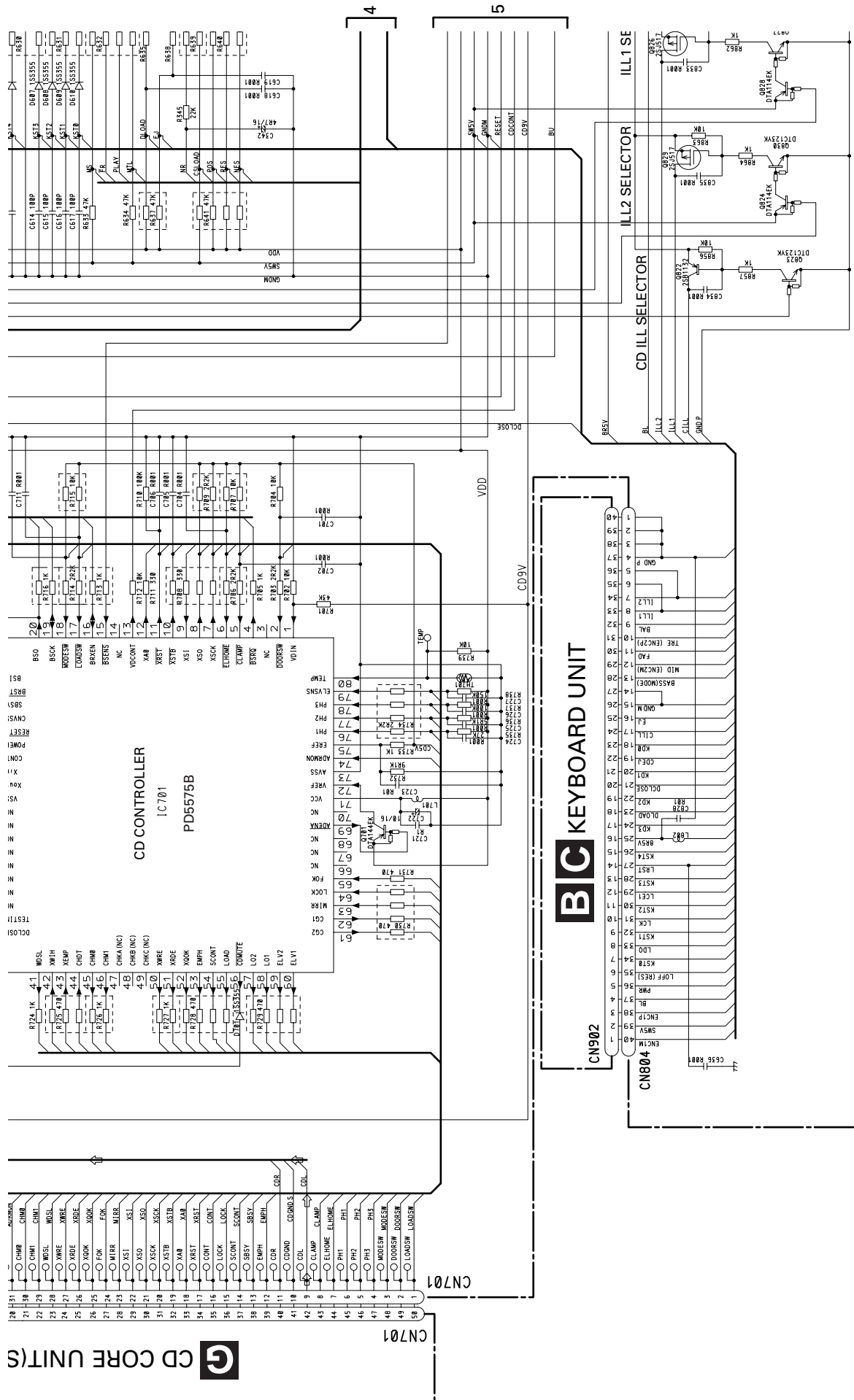


B C KEYBOARD UNIT



A-b





A-a	A-b
<p>1. $\frac{1}{2}$ of the population</p> <p>2. $\frac{1}{4}$ of the population</p> <p>3. $\frac{1}{8}$ of the population</p> <p>4. $\frac{1}{16}$ of the population</p> <p>5. $\frac{1}{32}$ of the population</p> <p>6. $\frac{1}{64}$ of the population</p> <p>7. $\frac{1}{128}$ of the population</p> <p>8. $\frac{1}{256}$ of the population</p> <p>9. $\frac{1}{512}$ of the population</p> <p>10. $\frac{1}{1024}$ of the population</p> <p>11. $\frac{1}{2048}$ of the population</p> <p>12. $\frac{1}{4096}$ of the population</p> <p>13. $\frac{1}{8192}$ of the population</p> <p>14. $\frac{1}{16384}$ of the population</p> <p>15. $\frac{1}{32768}$ of the population</p> <p>16. $\frac{1}{65536}$ of the population</p> <p>17. $\frac{1}{131072}$ of the population</p> <p>18. $\frac{1}{262144}$ of the population</p> <p>19. $\frac{1}{524288}$ of the population</p> <p>20. $\frac{1}{1048576}$ of the population</p> <p>21. $\frac{1}{2097152}$ of the population</p> <p>22. $\frac{1}{4194304}$ of the population</p> <p>23. $\frac{1}{8388608}$ of the population</p> <p>24. $\frac{1}{16777216}$ of the population</p> <p>25. $\frac{1}{33554432}$ of the population</p> <p>26. $\frac{1}{67108864}$ of the population</p> <p>27. $\frac{1}{134217728}$ of the population</p> <p>28. $\frac{1}{268435456}$ of the population</p> <p>29. $\frac{1}{536870912}$ of the population</p> <p>30. $\frac{1}{1073741824}$ of the population</p> <p>31. $\frac{1}{2147483648}$ of the population</p> <p>32. $\frac{1}{4294967296}$ of the population</p> <p>33. $\frac{1}{8589934592}$ of the population</p> <p>34. $\frac{1}{17179869184}$ of the population</p> <p>35. $\frac{1}{34359738368}$ of the population</p> <p>36. $\frac{1}{68719476736}$ of the population</p> <p>37. $\frac{1}{137438953472}$ of the population</p> <p>38. $\frac{1}{274877906944}$ of the population</p> <p>39. $\frac{1}{549755813888}$ of the population</p> <p>40. $\frac{1}{1099511627776}$ of the population</p> <p>41. $\frac{1}{2199023255552}$ of the population</p> <p>42. $\frac{1}{4398046511104}$ of the population</p> <p>43. $\frac{1}{8796093022208}$ of the population</p> <p>44. $\frac{1}{17592186044416}$ of the population</p> <p>45. $\frac{1}{35184372088832}$ of the population</p> <p>46. $\frac{1}{70368744177664}$ of the population</p> <p>47. $\frac{1}{140737488355328}$ of the population</p> <p>48. $\frac{1}{281474976710656}$ of the population</p> <p>49. $\frac{1}{562949953421312}$ of the population</p> <p>50. $\frac{1}{1125899906842624}$ of the population</p> <p>51. $\frac{1}{2251799813685248}$ of the population</p> <p>52. $\frac{1}{4503599627370496}$ of the population</p> <p>53. $\frac{1}{9007199254740992}$ of the population</p> <p>54. $\frac{1}{18014398509481984}$ of the population</p> <p>55. $\frac{1}{36028797018963968}$ of the population</p> <p>56. $\frac{1}{72057594037927936}$ of the population</p> <p>57. $\frac{1}{144115188075855872}$ of the population</p> <p>58. $\frac{1}{288230376151711744}$ of the population</p> <p>59. $\frac{1}{576460752303423488}$ of the population</p> <p>60. $\frac{1}{1152921504606846976}$ of the population</p> <p>61. $\frac{1}{2305843009213693952}$ of the population</p> <p>62. $\frac{1}{4611686018427387904}$ of the population</p> <p>63. $\frac{1}{9223372036854775808}$ of the population</p> <p>64. $\frac{1}{18446744073709551616}$ of the population</p> <p>65. $\frac{1}{36893488147419103232}$ of the population</p> <p>66. $\frac{1}{73786976294838206464}$ of the population</p> <p>67. $\frac{1}{147573952589676412928}$ of the population</p> <p>68. $\frac{1}{295147905179352825856}$ of the population</p> <p>69. $\frac{1}{590295810358705651712}$ of the population</p> <p>70. $\frac{1}{1180591620717411303424}$ of the population</p> <p>71. $\frac{1}{2361183241434822606848}$ of the population</p> <p>72. $\frac{1}{4722366482869645213696}$ of the population</p> <p>73. $\frac{1}{9444732965739290427392}$ of the population</p> <p>74. $\frac{1}{18889465931478580854784}$ of the population</p> <p>75. $\frac{1}{37778931862957161709568}$ of the population</p> <p>76. $\frac{1}{75557863725914323419136}$ of the population</p> <p>77. $\frac{1}{151115727451828646838272}$ of the population</p> <p>78. $\frac{1}{302231454903657293676544}$ of the population</p> <p>79. $\frac{1}{604462909807314587353088}$ of the population</p> <p>80. $\frac{1}{1208925819614629174706176}$ of the population</p> <p>81. $\frac{1}{2417851639229258349412352}$ of the population</p> <p>82. $\frac{1}{4835703278458516698824704}$ of the population</p> <p>83. $\frac{1}{9671406556917033397649408}$ of the population</p> <p>84. $\frac{1}{19342813113834066795298816}$ of the population</p> <p>85. $\frac{1}{38685626227668133590597632}$ of the population</p> <p>86. $\frac{1}{77371252455336267181195264}$ of the population</p> <p>87. $\frac{1}{154742504910672534362390528}$ of the population</p> <p>88. $\frac{1}{309485009821345068724781056}$ of the population</p> <p>89. $\frac{1}{618970019642690137449562112}$ of the population</p> <p>90. $\frac{1}{1237940039285380274899124224}$ of the population</p> <p>91. $\frac{1}{2475880078570760549798248448}$ of the population</p> <p>92. $\frac{1}{4951760157141521099596496896}$ of the population</p> <p>93. $\frac{1}{9903520314283042199192993792}$ of the population</p> <p>94. $\frac{1}{19807040628566084398385987584}$ of the population</p> <p>95. $\frac{1}{39614081257132168796771975168}$ of the population</p> <p>96. $\frac{1}{79228162514264337593543950336}$ of the population</p> <p>97. $\frac{1}{158456325028528675187087900672}$ of the population</p> <p>98. $\frac{1}{316912650057057350374175801344}$ of the population</p> <p>99. $\frac{1}{633825300114114700748351602688}$ of the population</p> <p>100. $\frac{1}{1267650600228229401496703205376}$ of the population</p>	

A

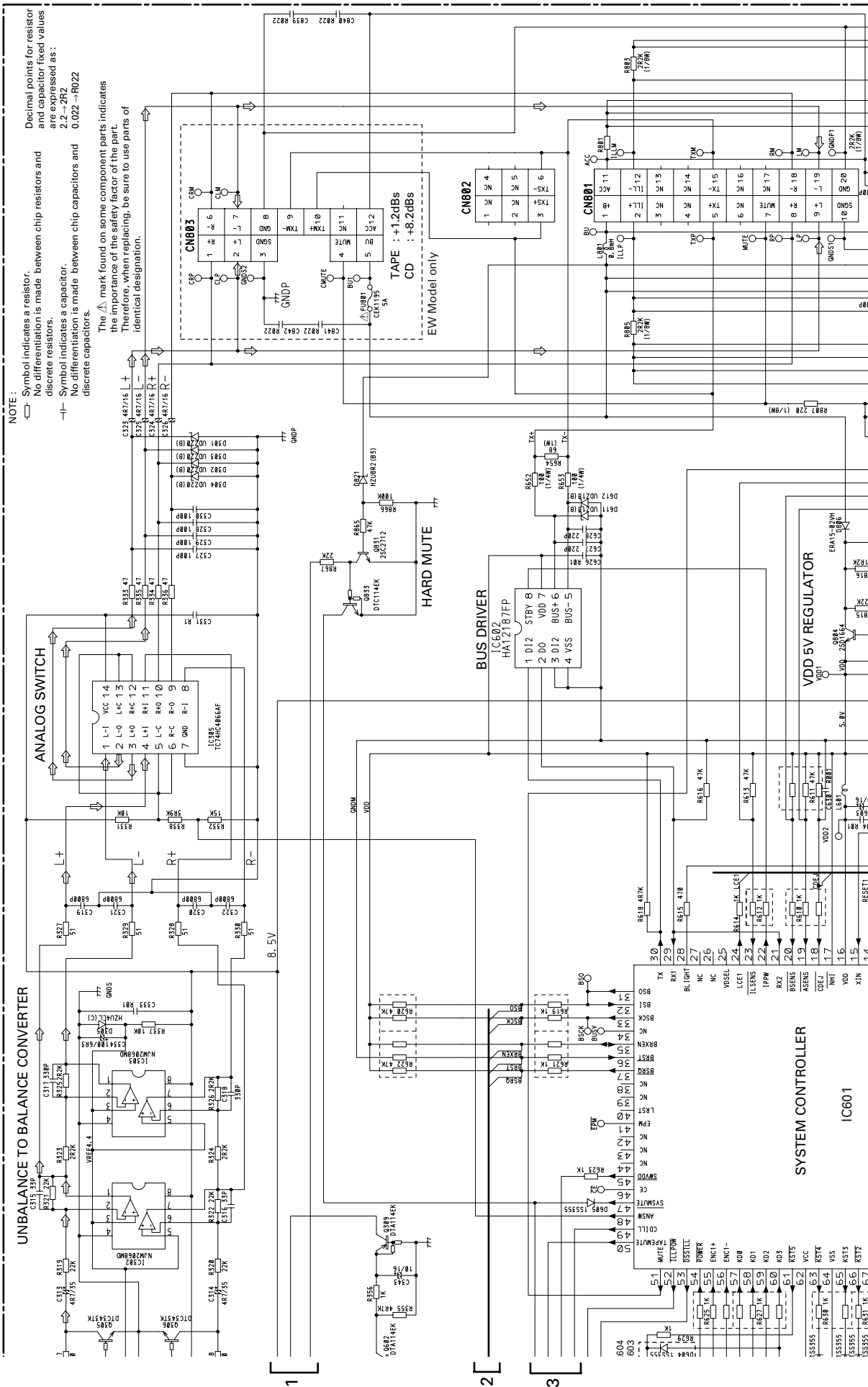
B

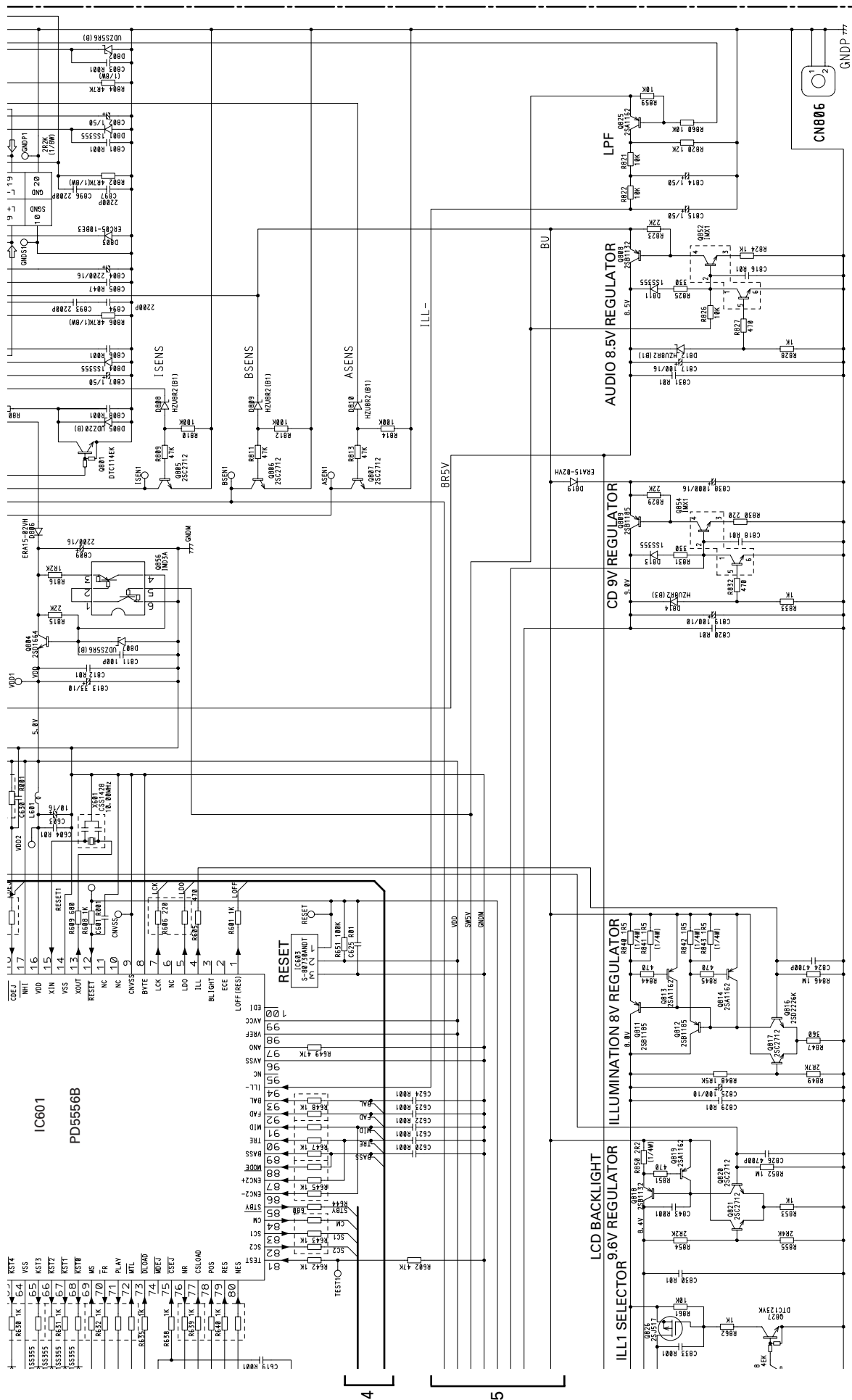
C

D

A-a A-b

A-b

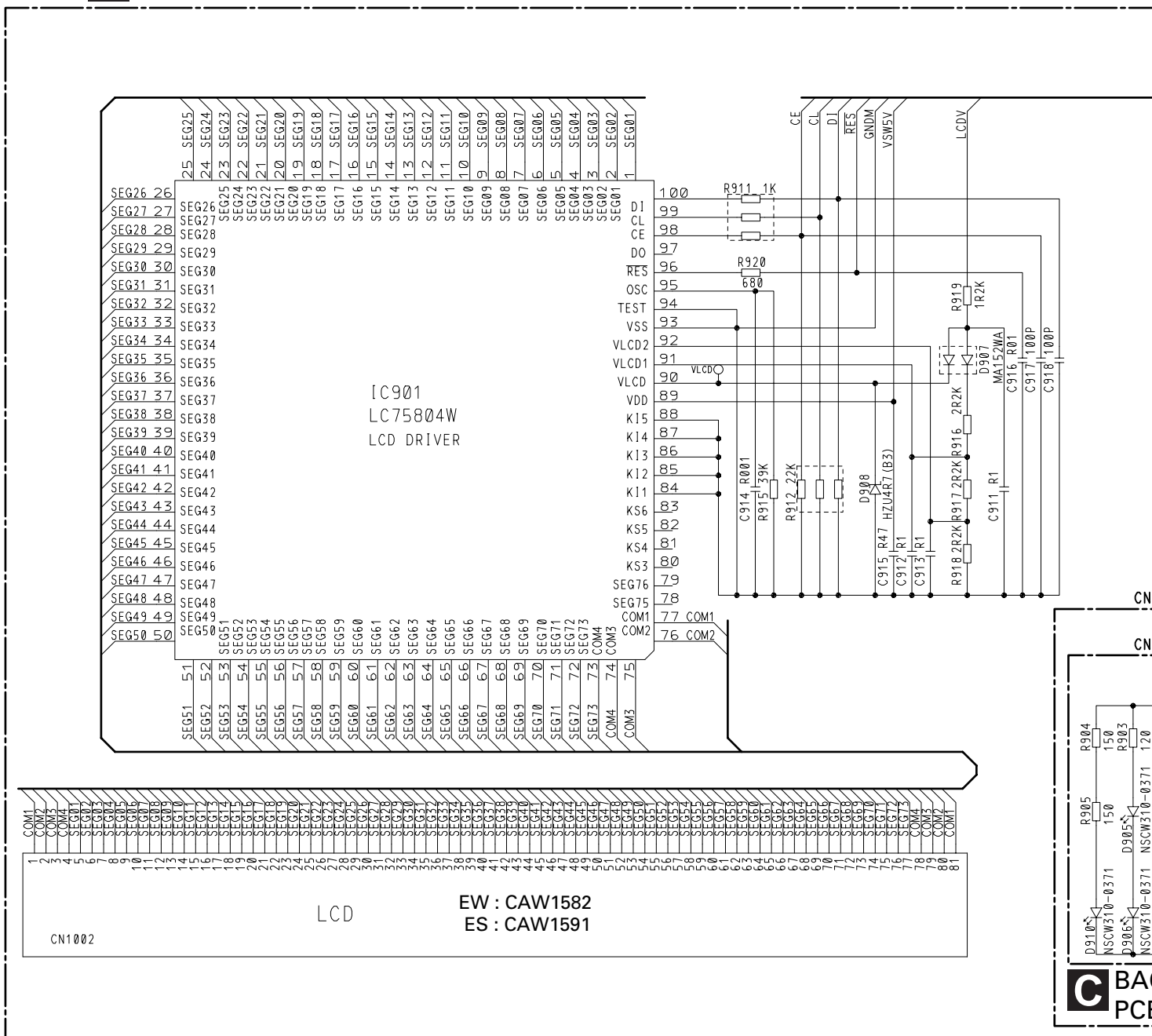




A-a A-b

3.3 KEYBOARD UNIT, SW UNIT

B KEYBOARD PCB

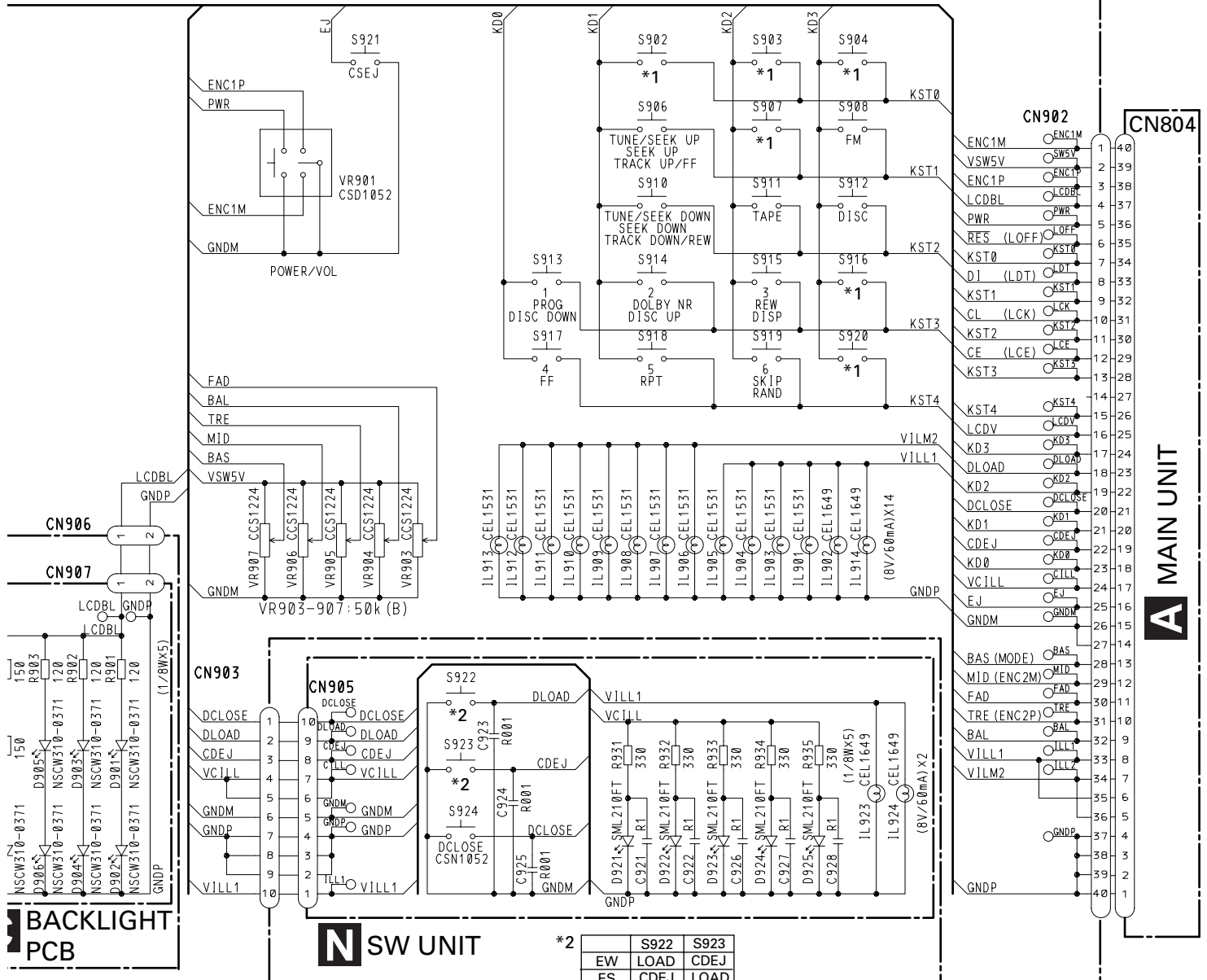


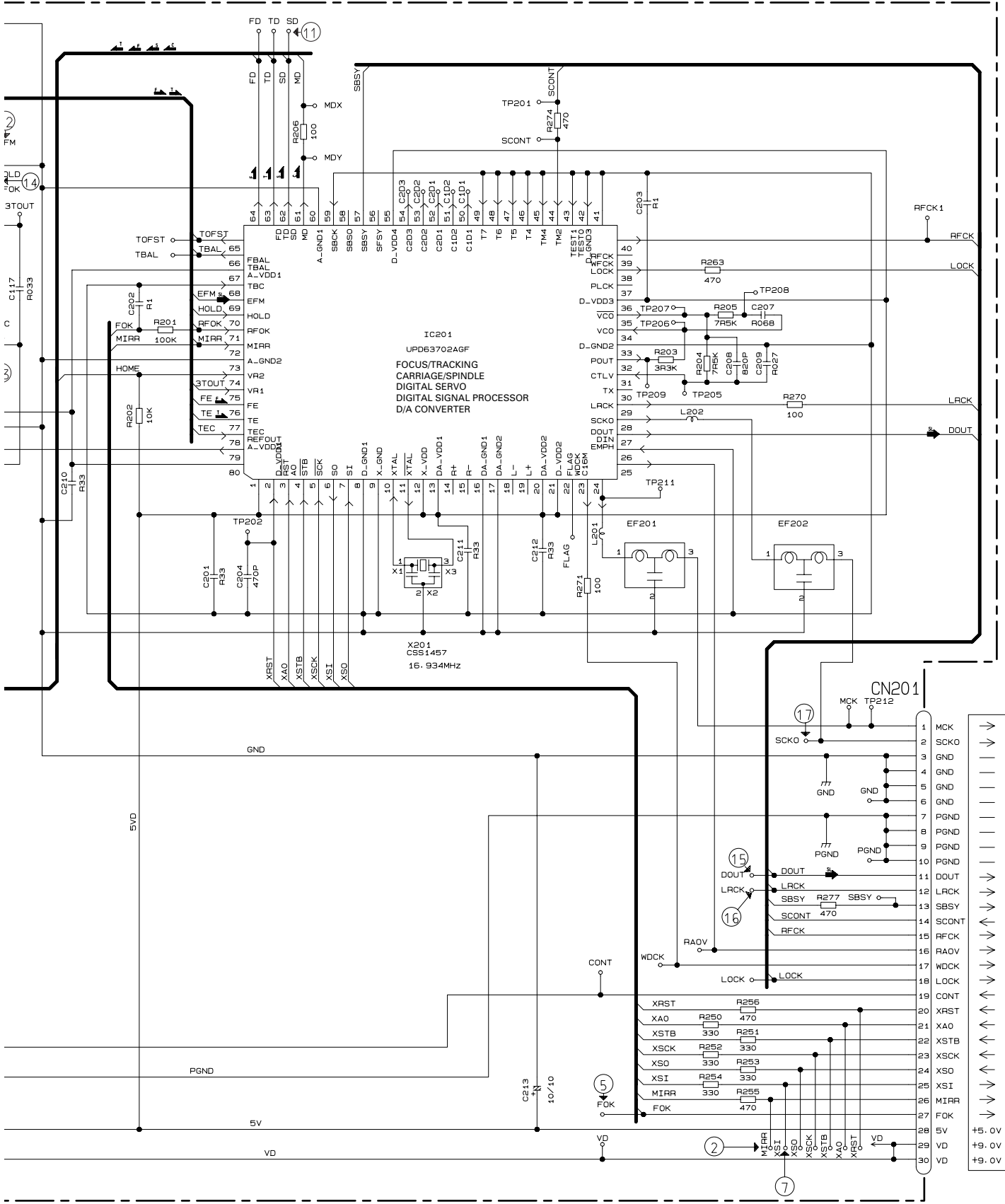
KEYBOARD UNIT

Consists of
KEYBOARD PCB
BACKLIGHT PCB

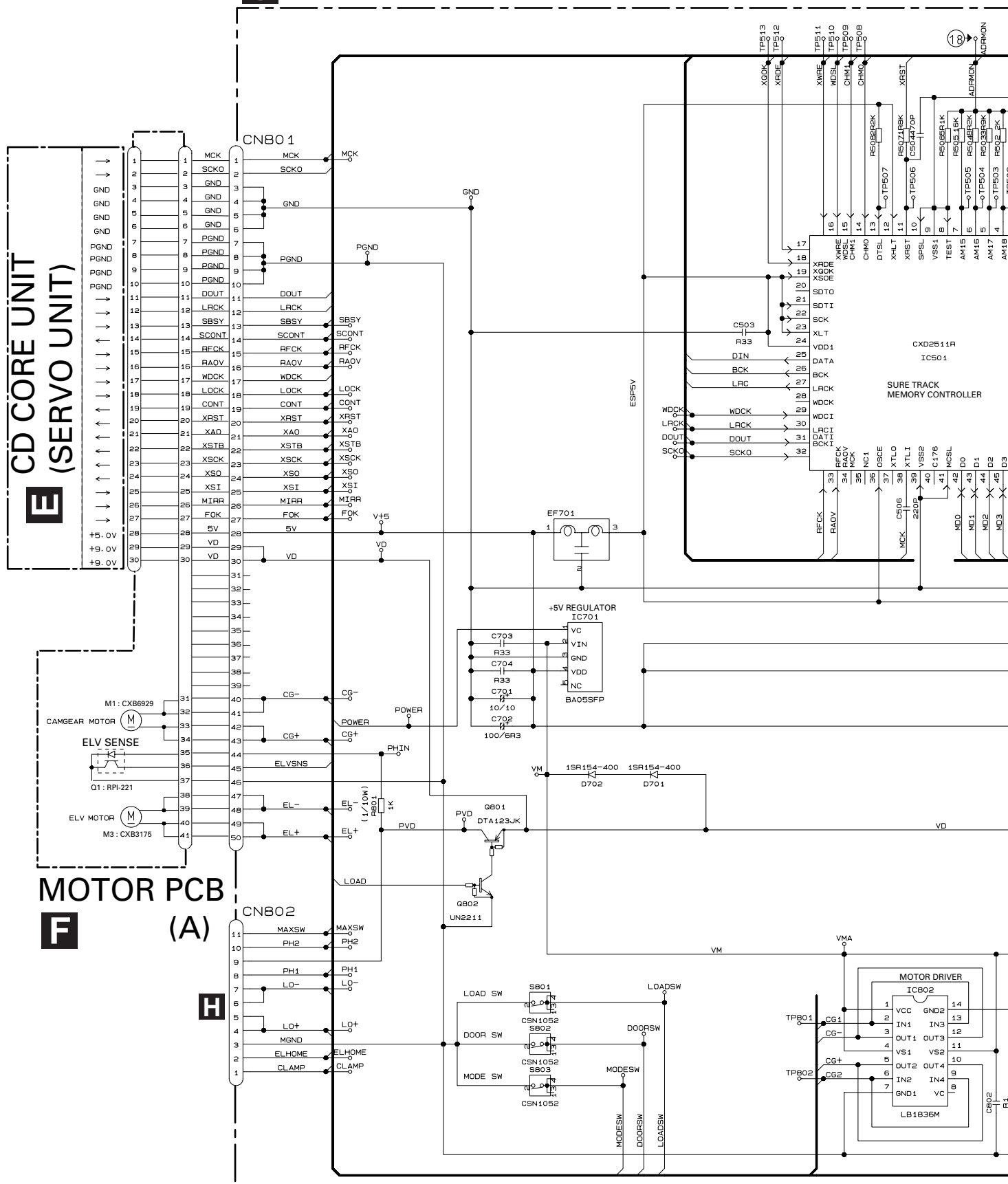
*1

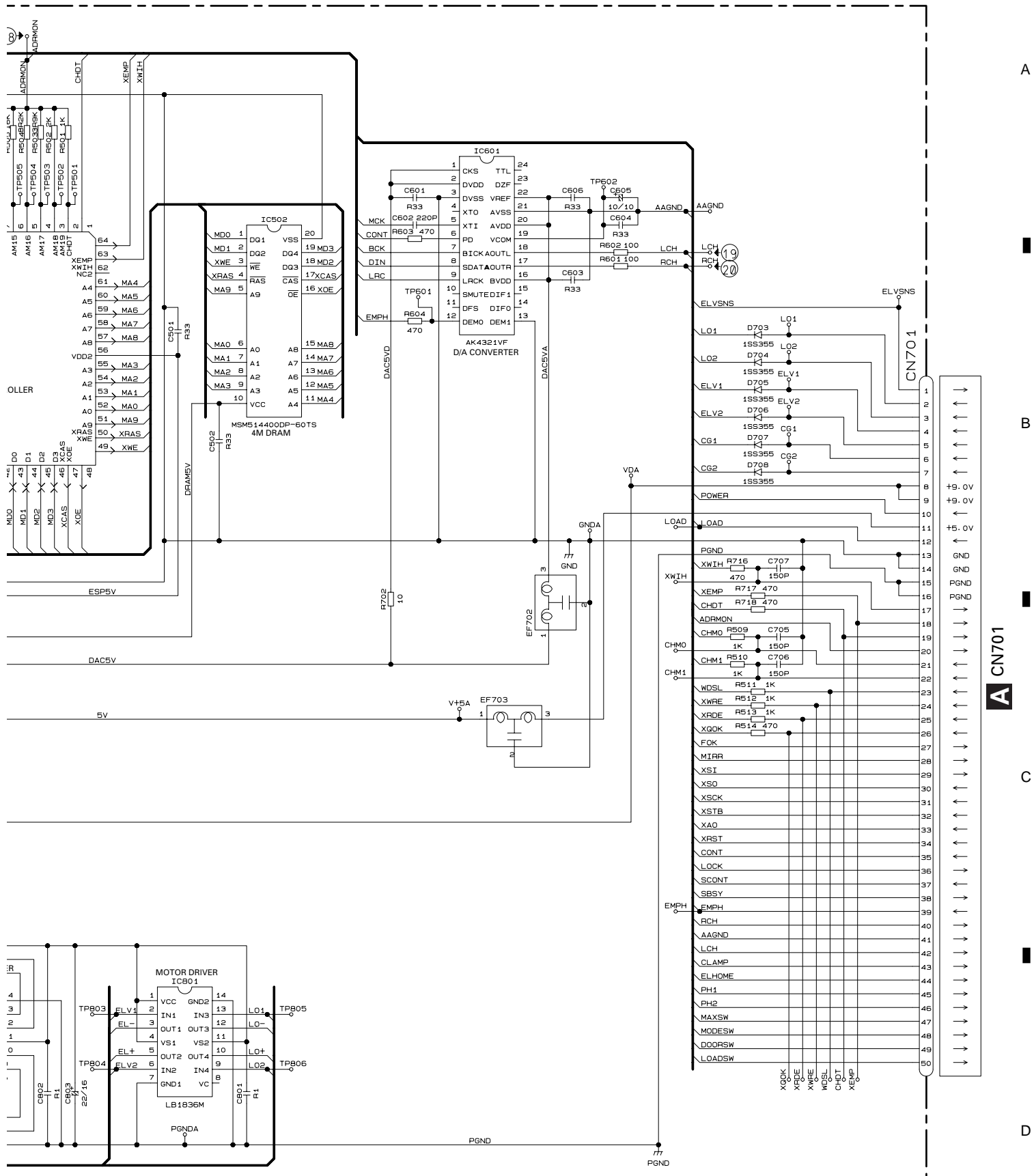
S902	S903	S904	S907	S916	S920
EW	TA	AF	PTY	AM	AST
ES	◀▶	□	ASL	AM/SW	SCAN P.SCAN





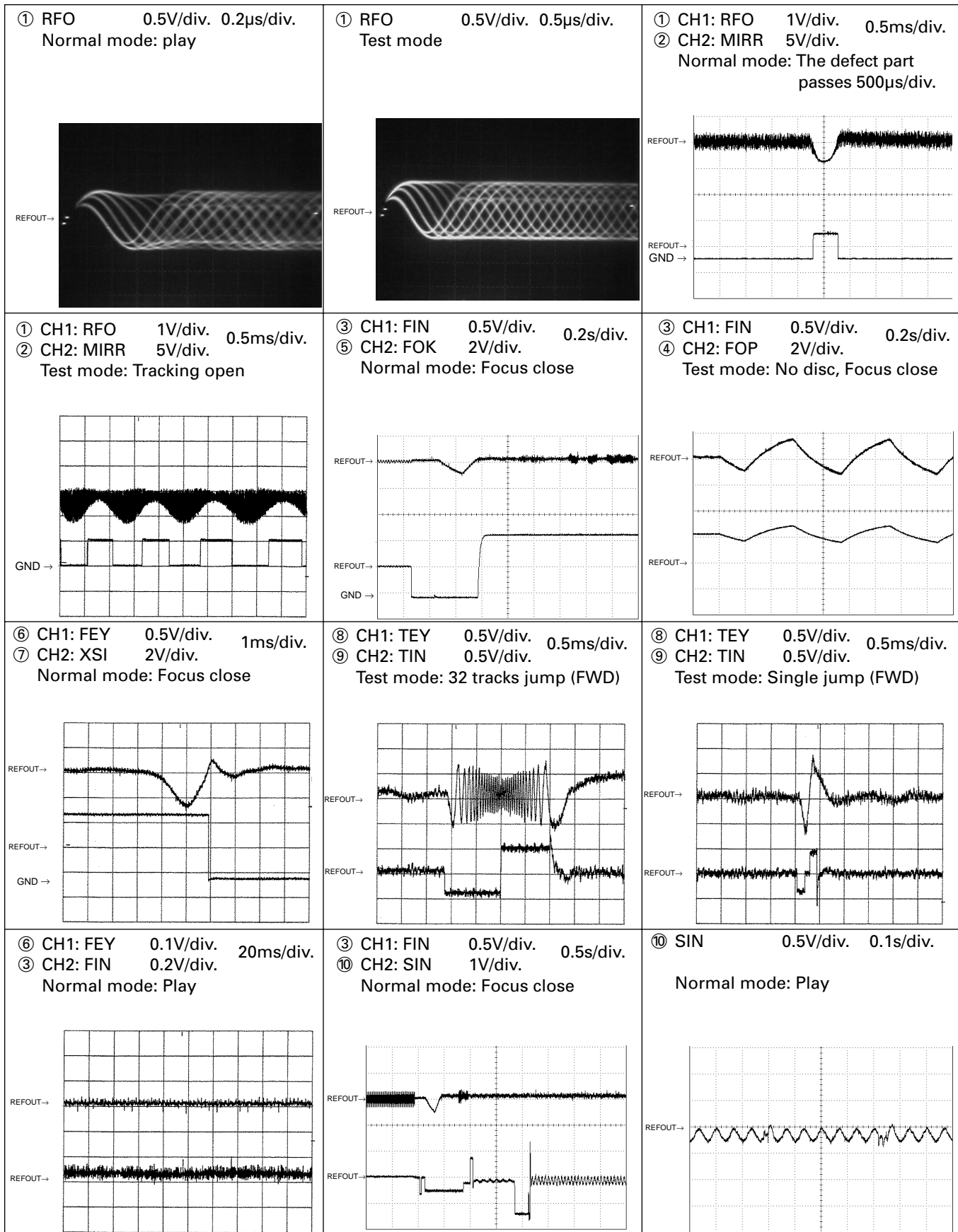
G CD CORE UNIT(STS UNIT)

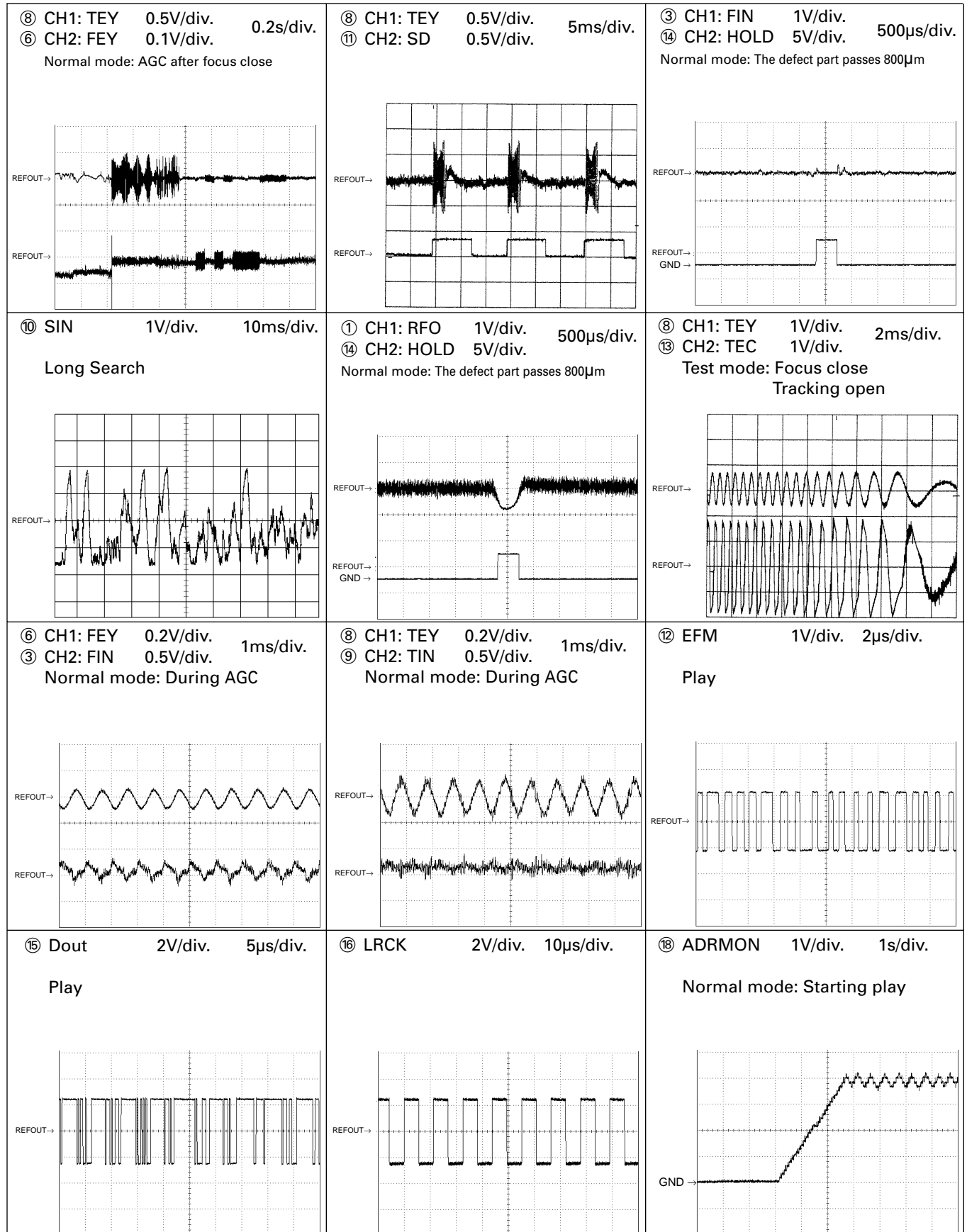


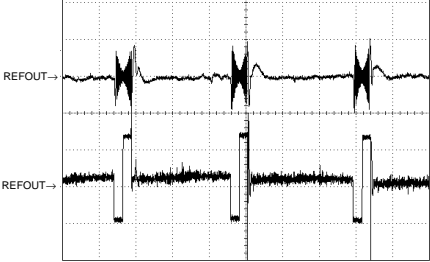
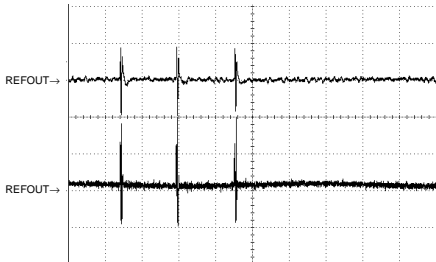
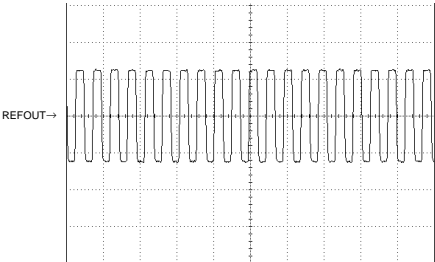
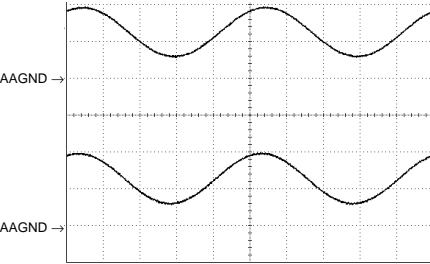


Note: 1. The encircled numbers denote measuring pointes in the circuit diagram.
 2. Reference voltage
 REFOUT: 2.5V

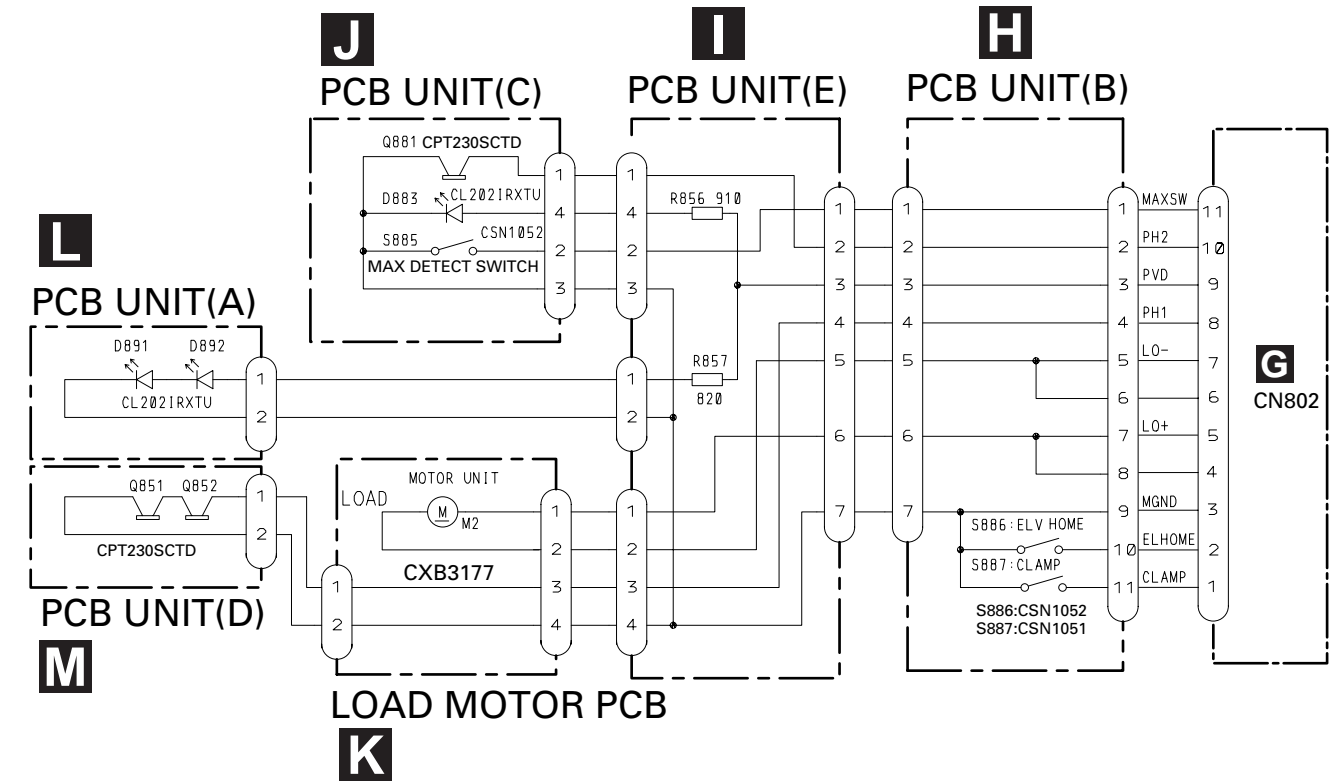
Waveforms



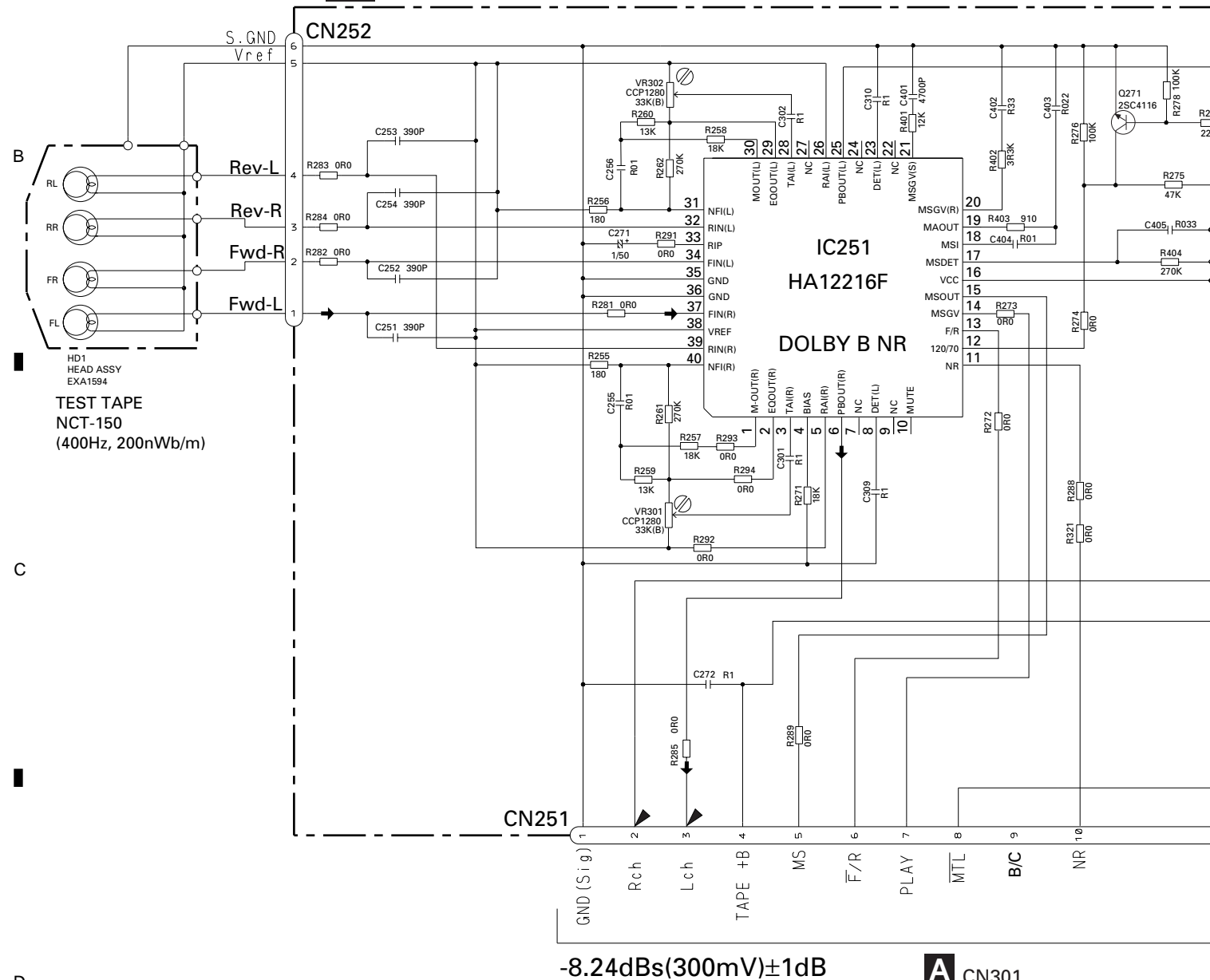


<div><div><div>⑧ CH1: TEY 0.5V/div. 5ms/div.</div><div>⑨ CH2: TIN 0.5V/div.</div><div>Test mode: 100 tracks jump(FWD)</div></div><div></div></div>	<div><div><div>⑧ CH1: TEY 0.5V/div. 10ms/div.</div><div>⑨ CH2: TIN 0.5V/div.</div><div>Normal mode: Play</div></div><div></div></div>	<div><div><div>⑰ SCKO 2V/div. 500ns/div.</div><div>Play</div></div><div></div></div>
<div><div><div>⑳ CH1: RCH 2V/div. 200μs/div.</div><div>㉑ CH2: LCH 2V/div.</div><div>Normal mode: PLAY (0dB,1kHz)</div></div><div></div></div>		

3.6 PCB UNIT(A,B,C,D,E), LOAD MOTOR PCB

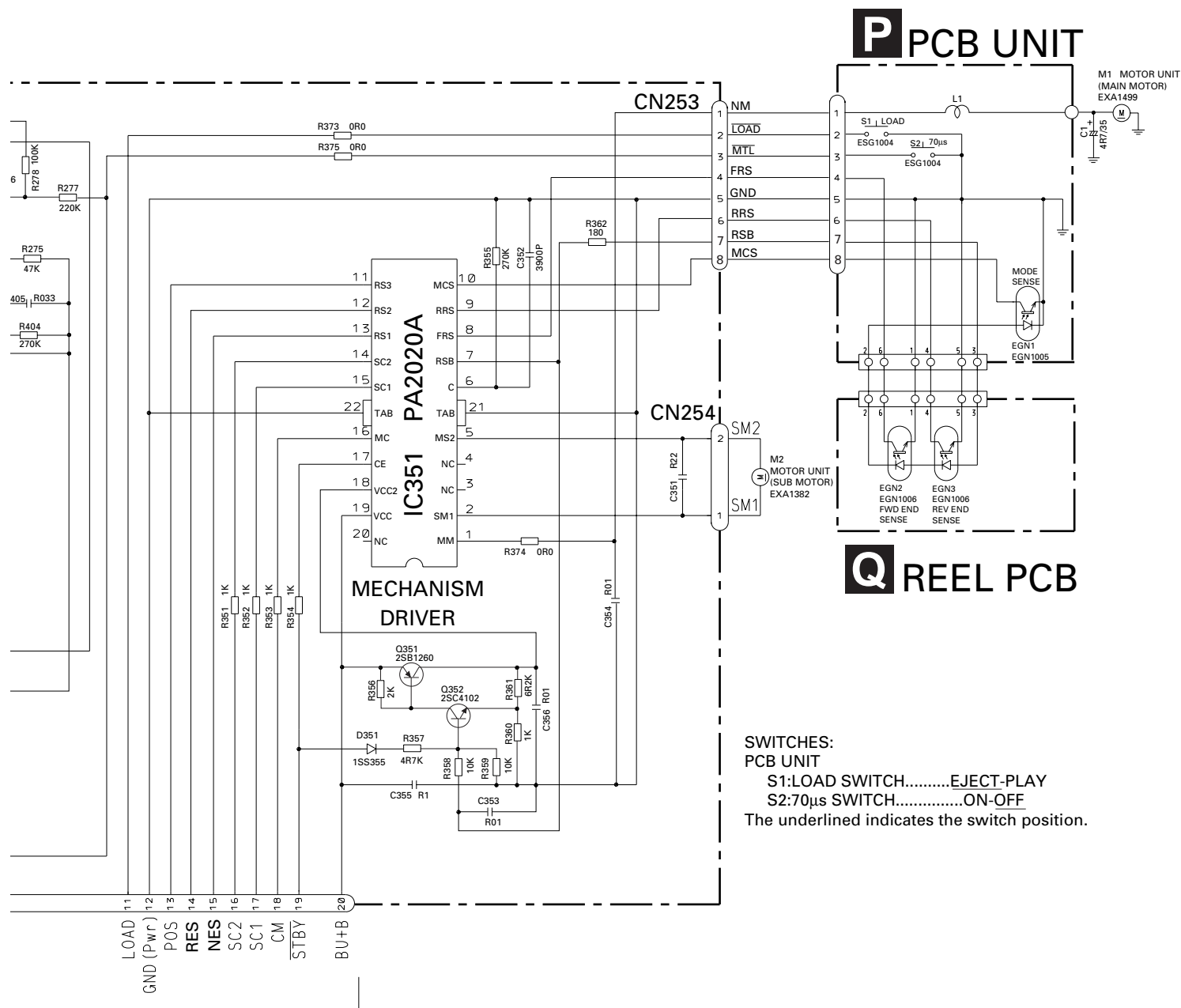


3.7 CASSETTE MECHANISM MODULE



-8.24dBs(300mV)±1dB

A CN301



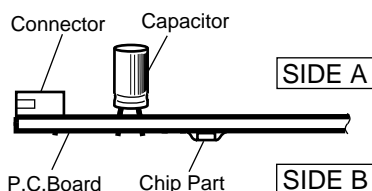
4. PCB CONNECTION DIAGRAM

4.1 MAIN UNIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
- For further information for respective destinations, be sure to check with the schematic diagram.

2. Viewpoint of PCB diagrams



IC, Q
Q810 Q809

Q811
Q813

Q801
Q702
Q812
Q301

IC301 Q308
Q302 Q307
IC305

Q854
Q603
Q857 Q602
Q807 Q805
Q305 Q303
Q852 IC302 Q309
IC303 Q304
Q808 Q306
Q825
Q816 Q817

Q831 Q833
Q804 Q806

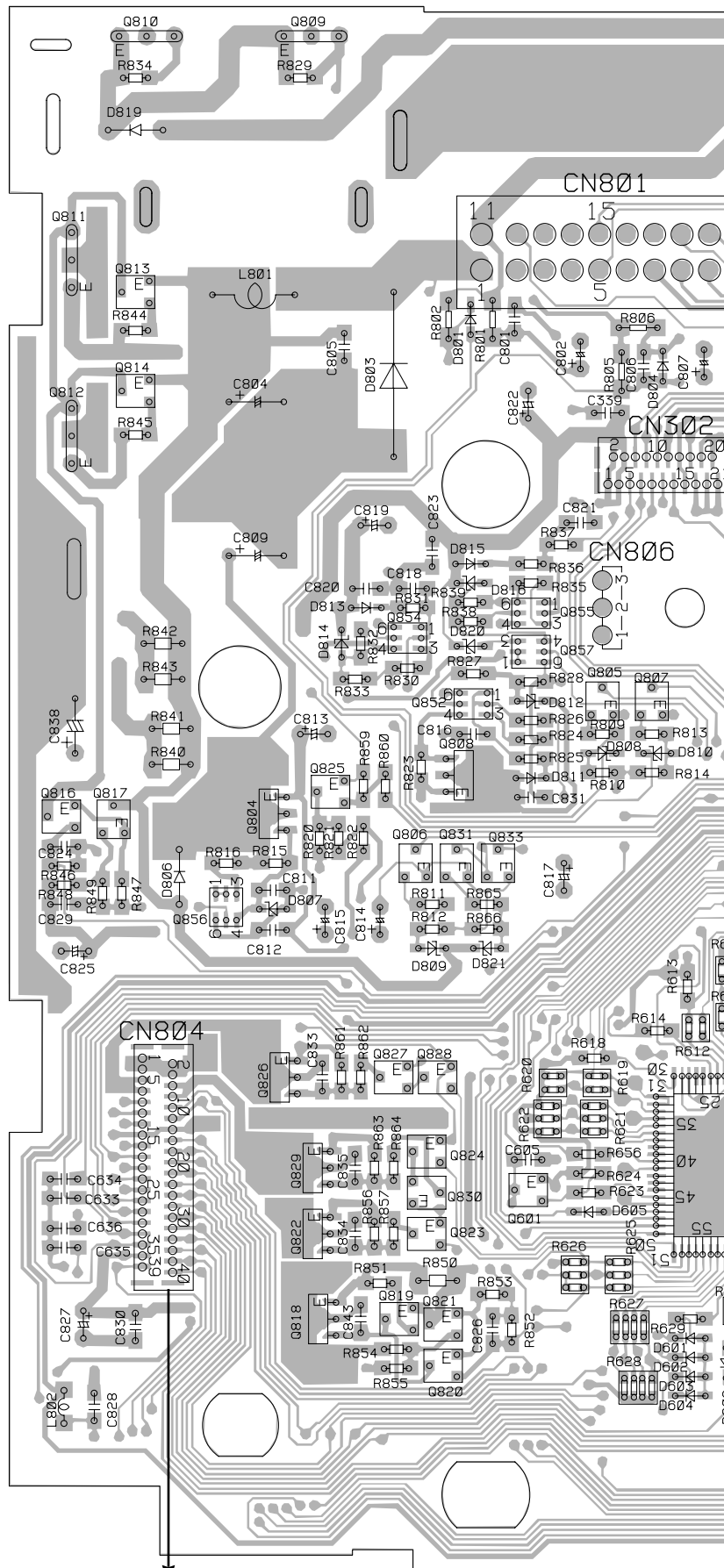
Q856
IC602 Q701

IC605
Q827 Q828
Q826

IC701
Q824
IC601
Q829 Q830
Q601
Q823
Q822

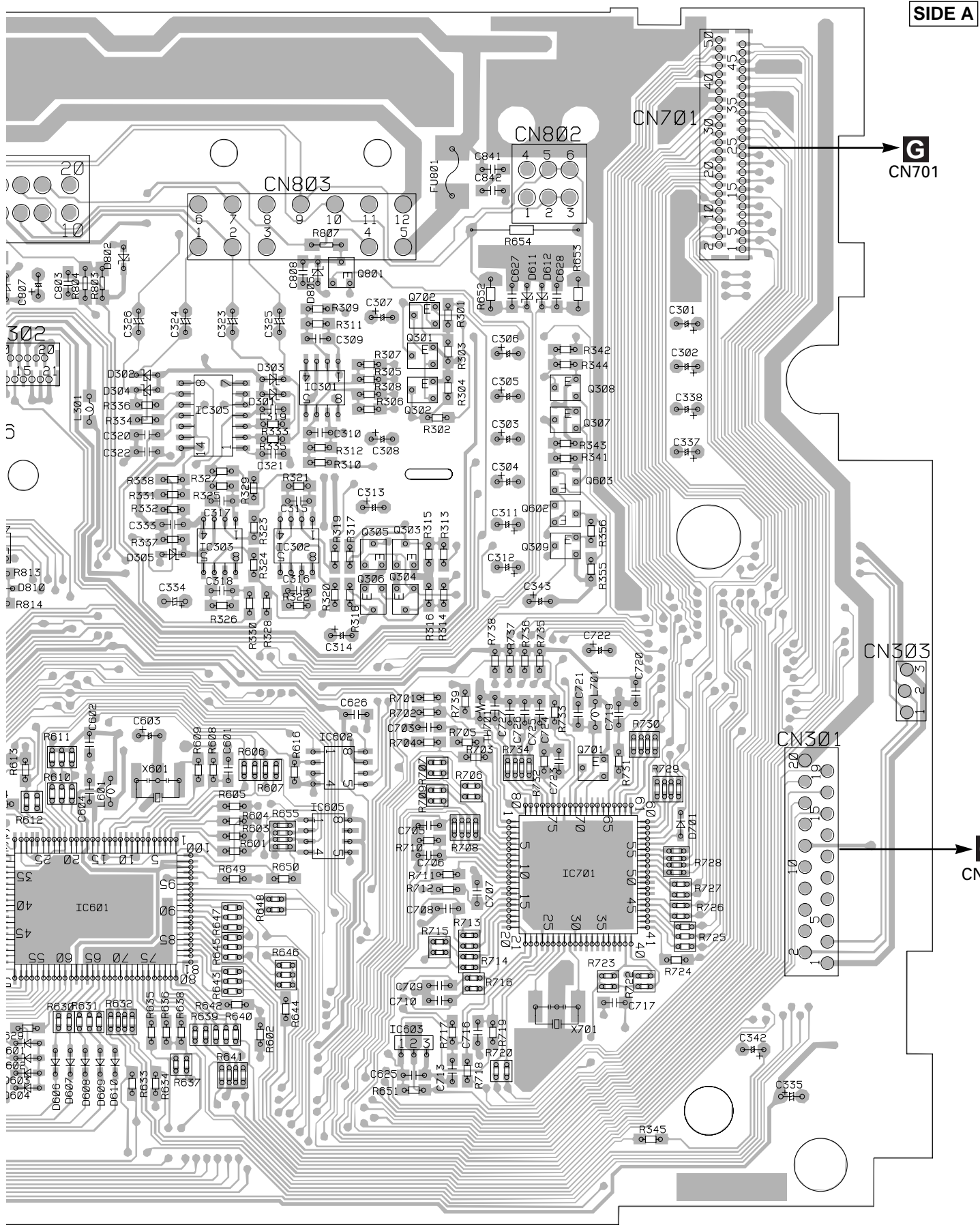
Q819 Q821
Q818 IC603

Q820



A MAIN UNIT

B CN902



FRONT

A

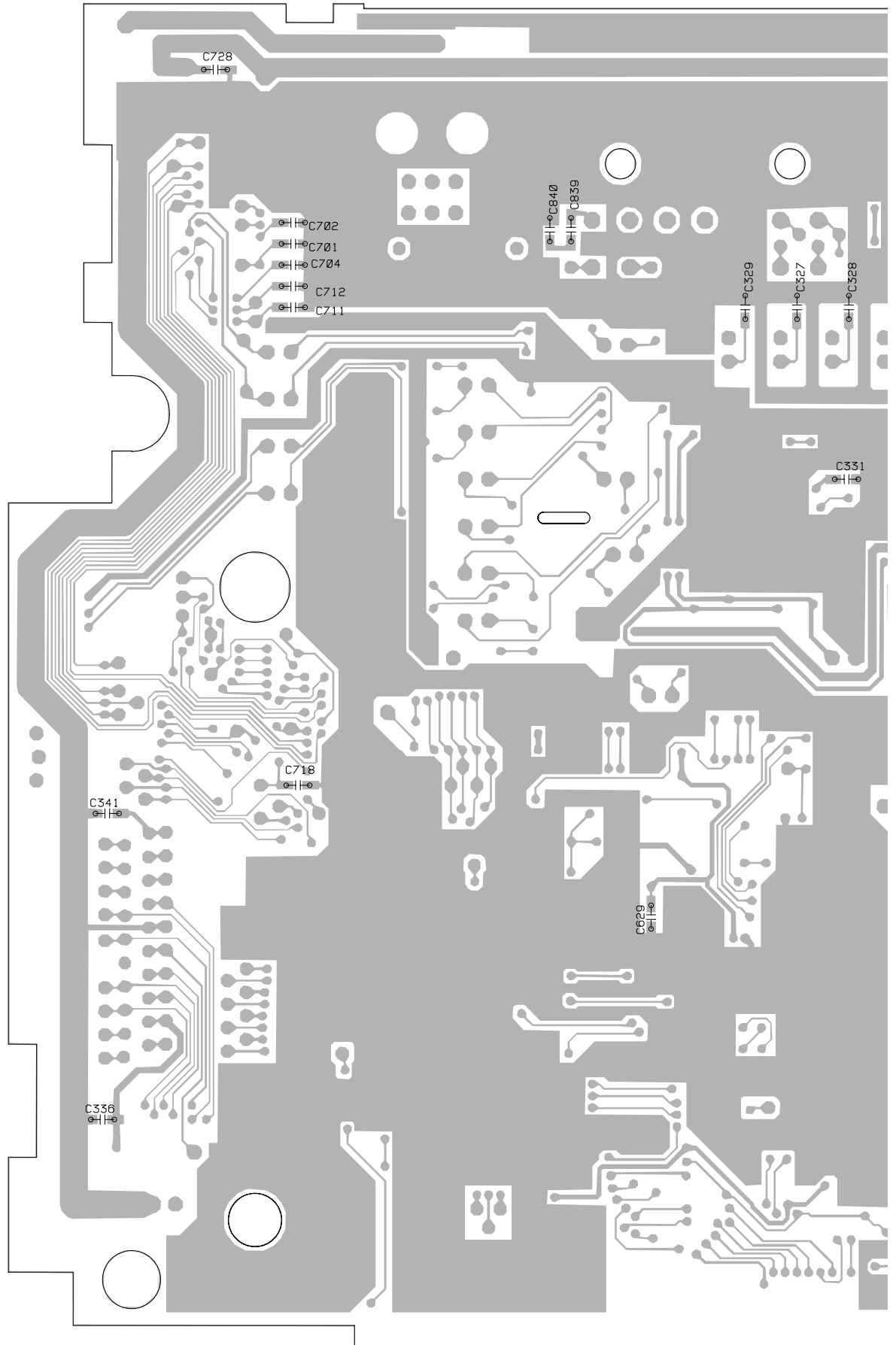
A MAIN UNIT

A

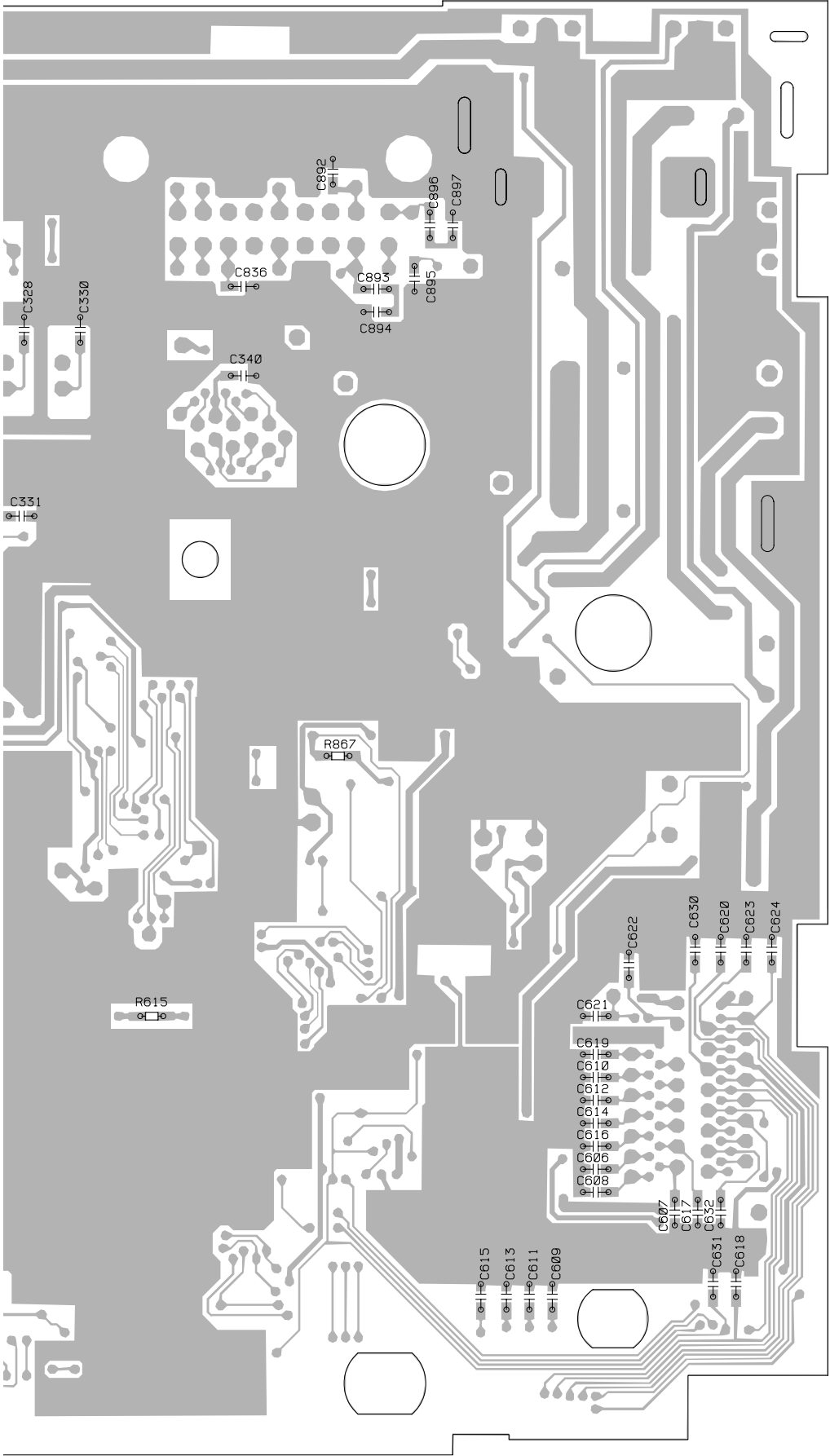
B

C

D



SIDE B



B

B KEYBOARD PCB

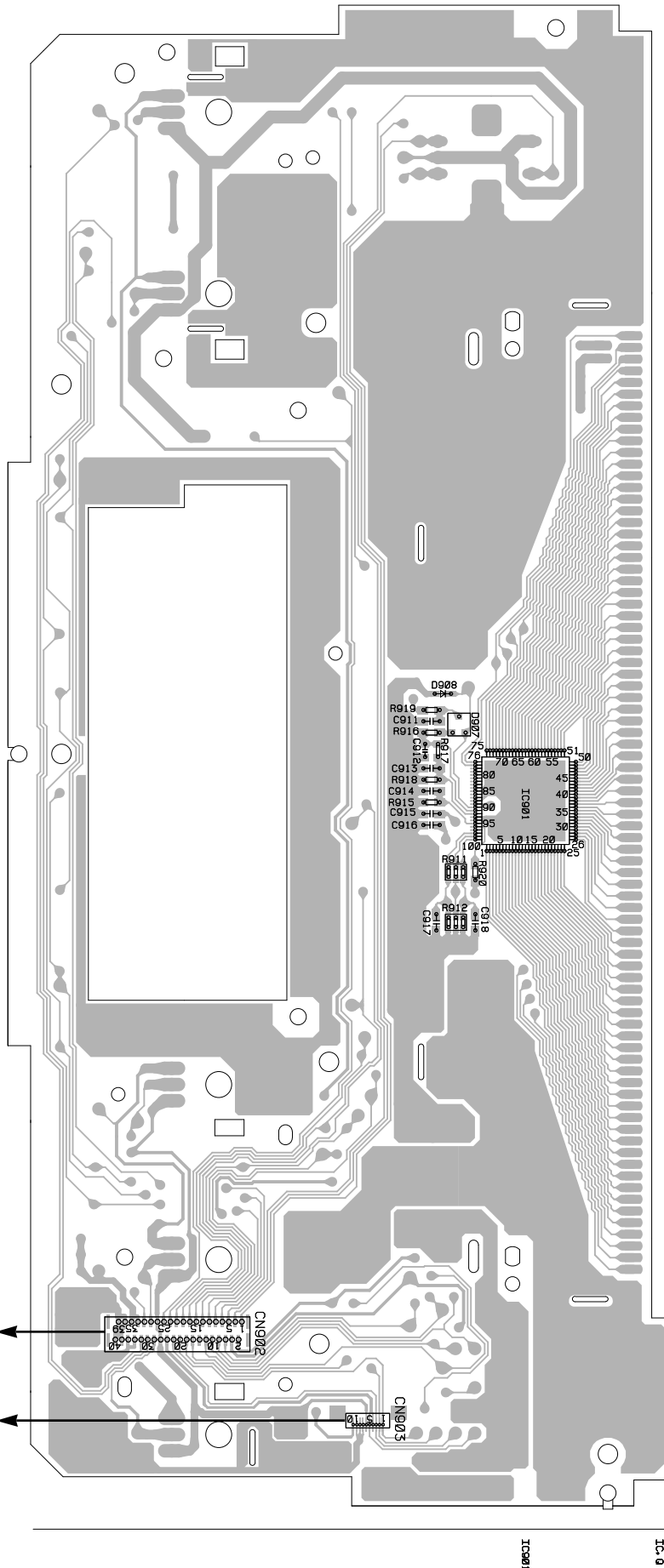


SIDE B



N CN905 **A** CN804

N CN905



IC901

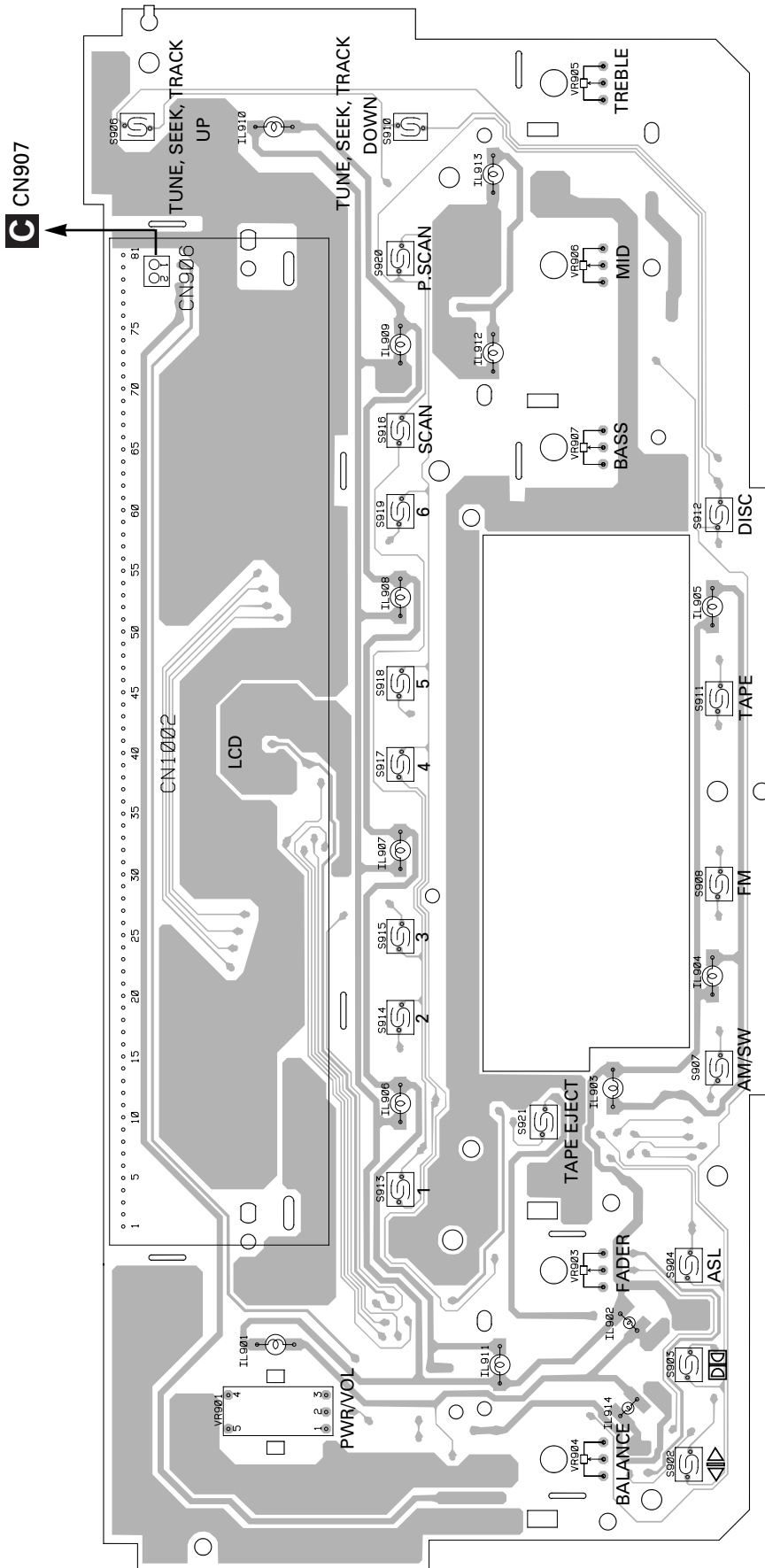
IC, 0

B

4.3 KEYBOARD PCB (FX-MG9006ZT/ES)

SIDE A

B KEYBOARD PCB

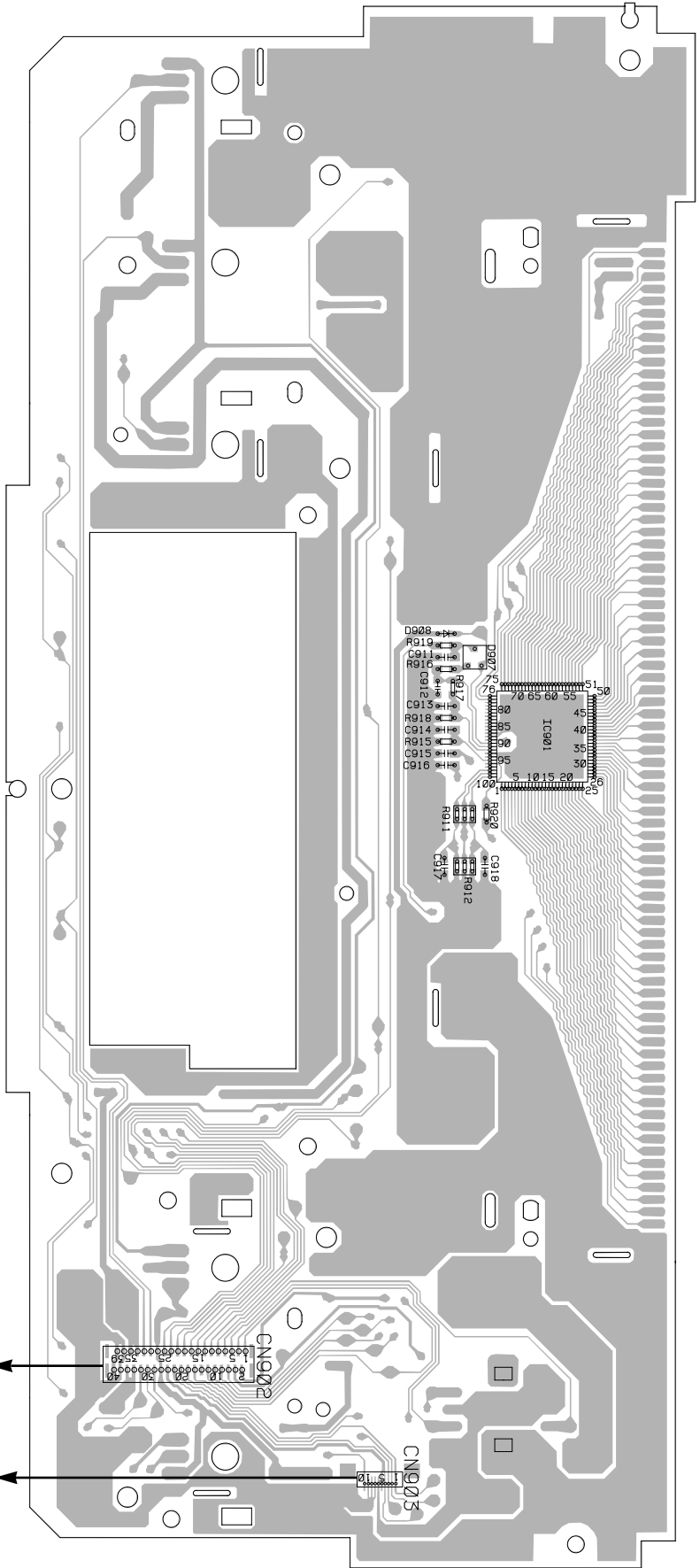


SIDE B

B KEYBOARD PCB

N CN905

A CN804



4.4 BACKLIGHT PCB

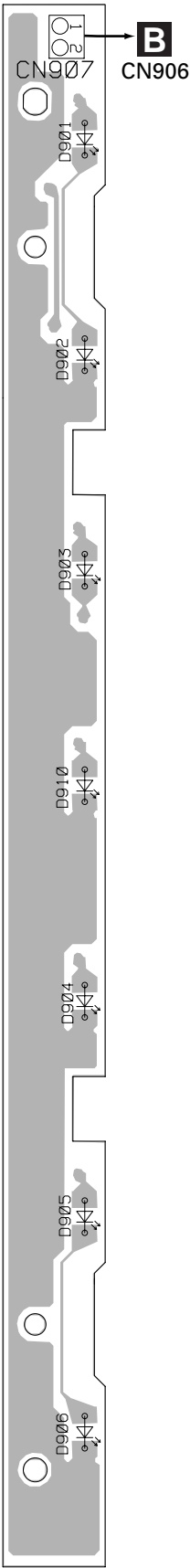
A

B

C

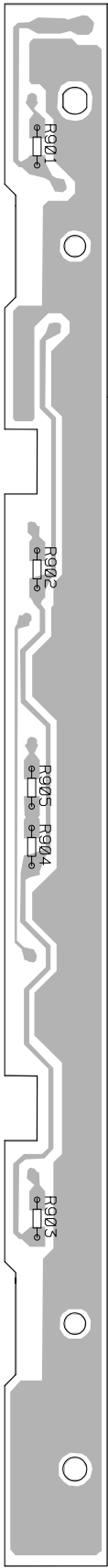
D

C BACKLIGHT PCB



SIDE A

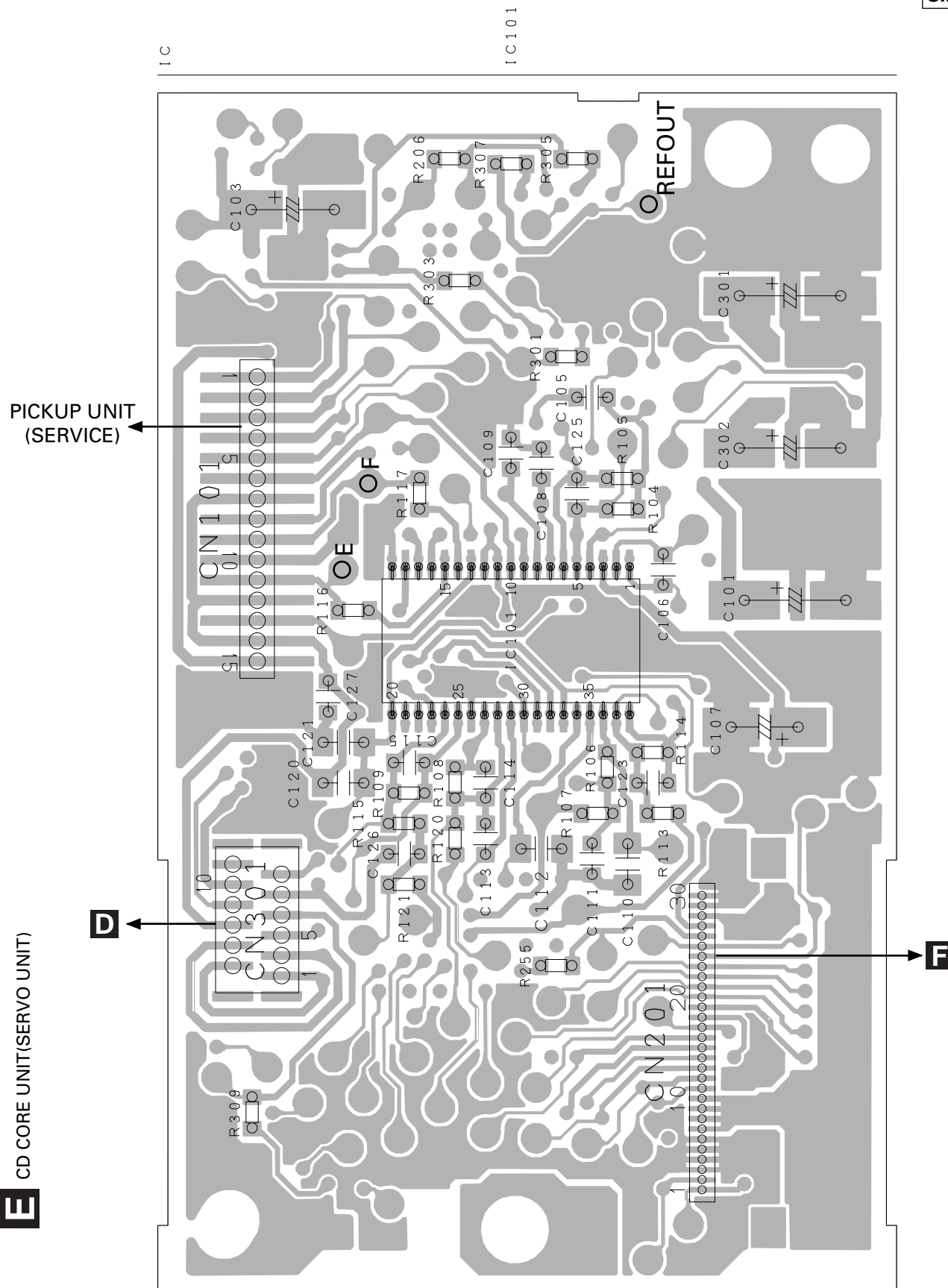
SIDE B



C BACKLIGHT PCB

4.6 CD CORE UNIT(SERVO UNIT)

SIDE A



SIDE B

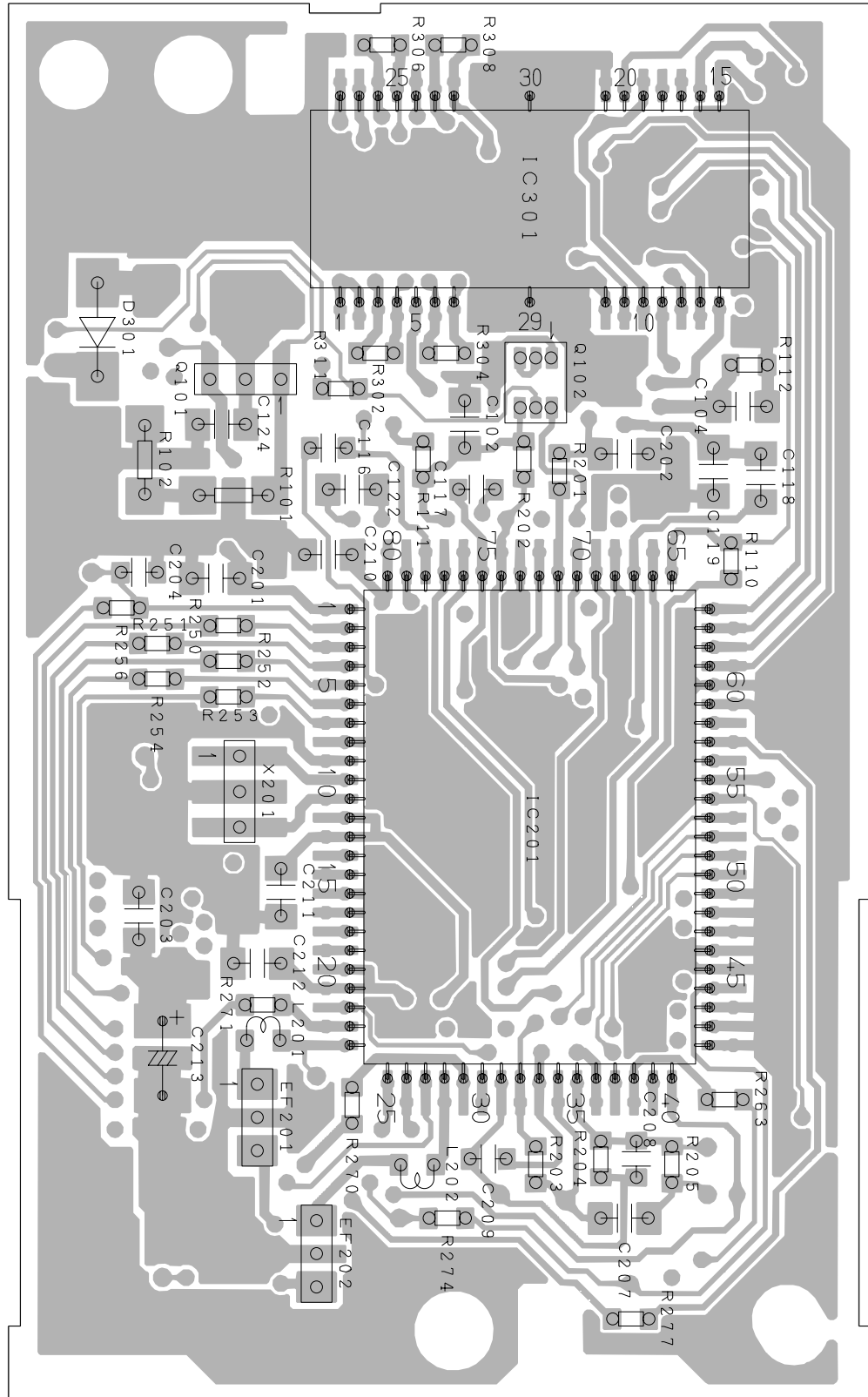
IC, Q

Q102

IC201

IC301

Q101

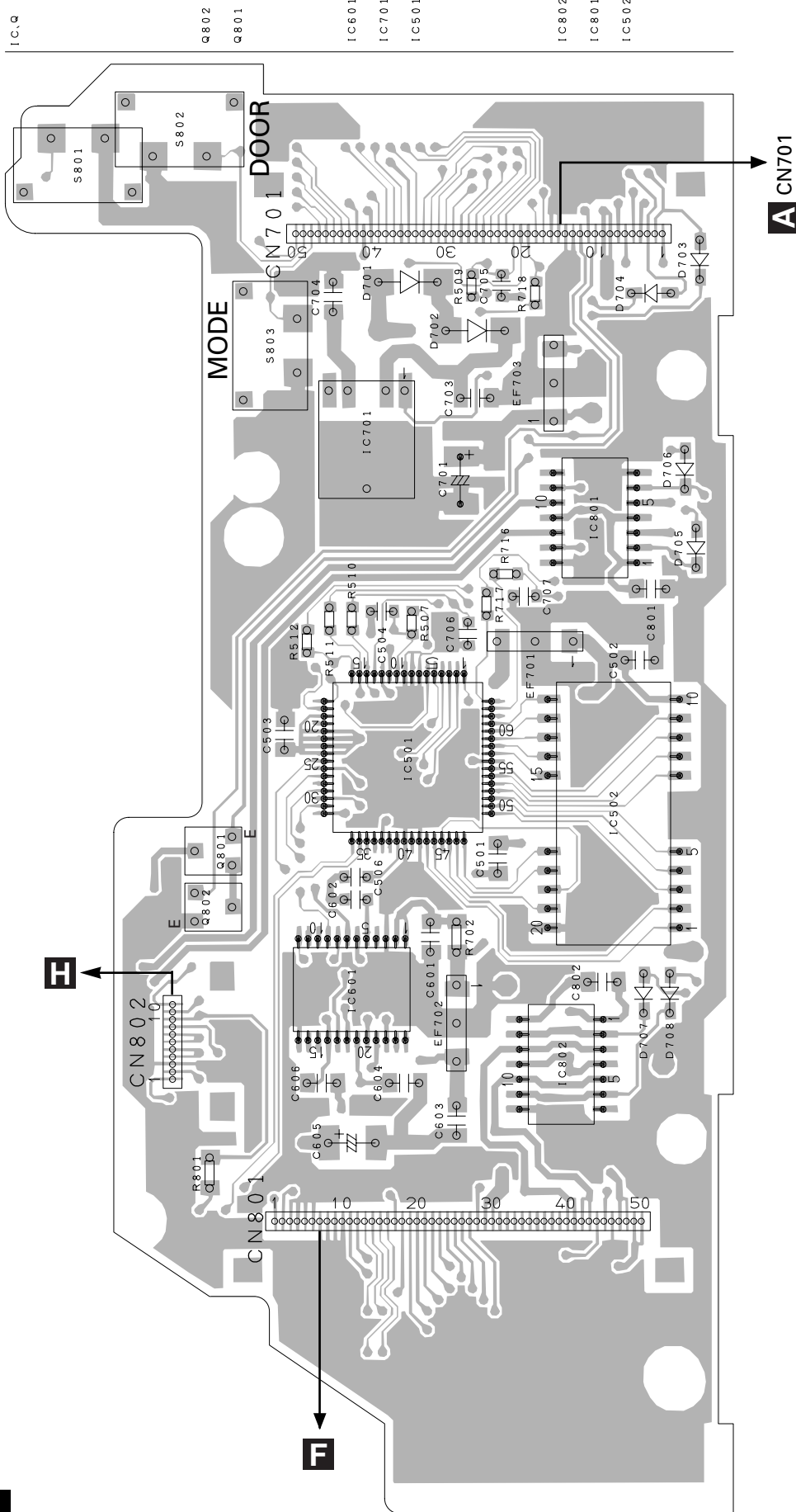


CD CORE UNIT(SERVO UNIT)

1 2 3 4 **FX-MG9106ZT, MG9106ZT-91** **4.7 CD CORE UNIT(STS UNIT)**

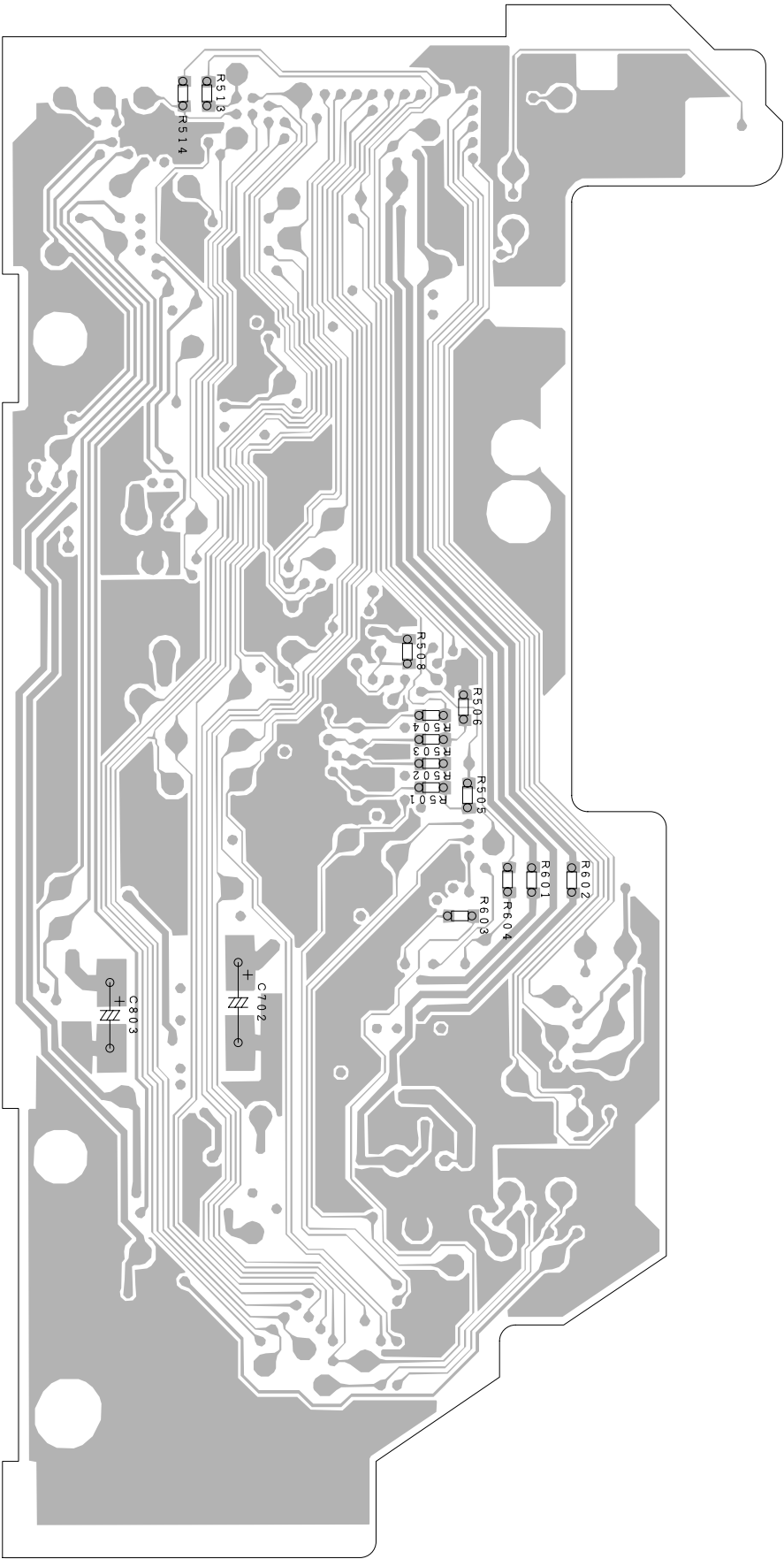
G CD CORE UNIT(STS UNIT)

SIDE A



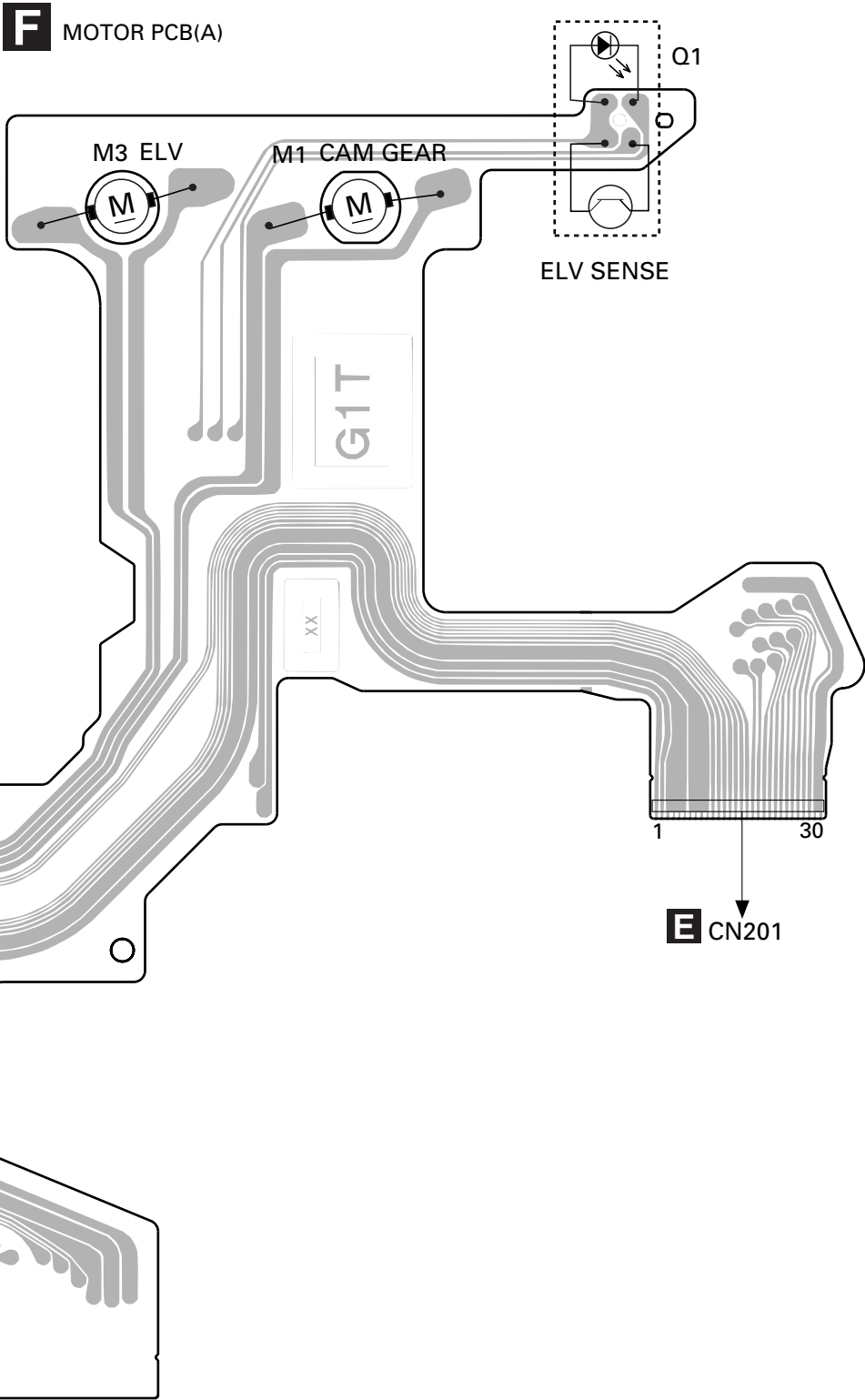
G CD CORE UNIT(STS UNIT)

SIDE B



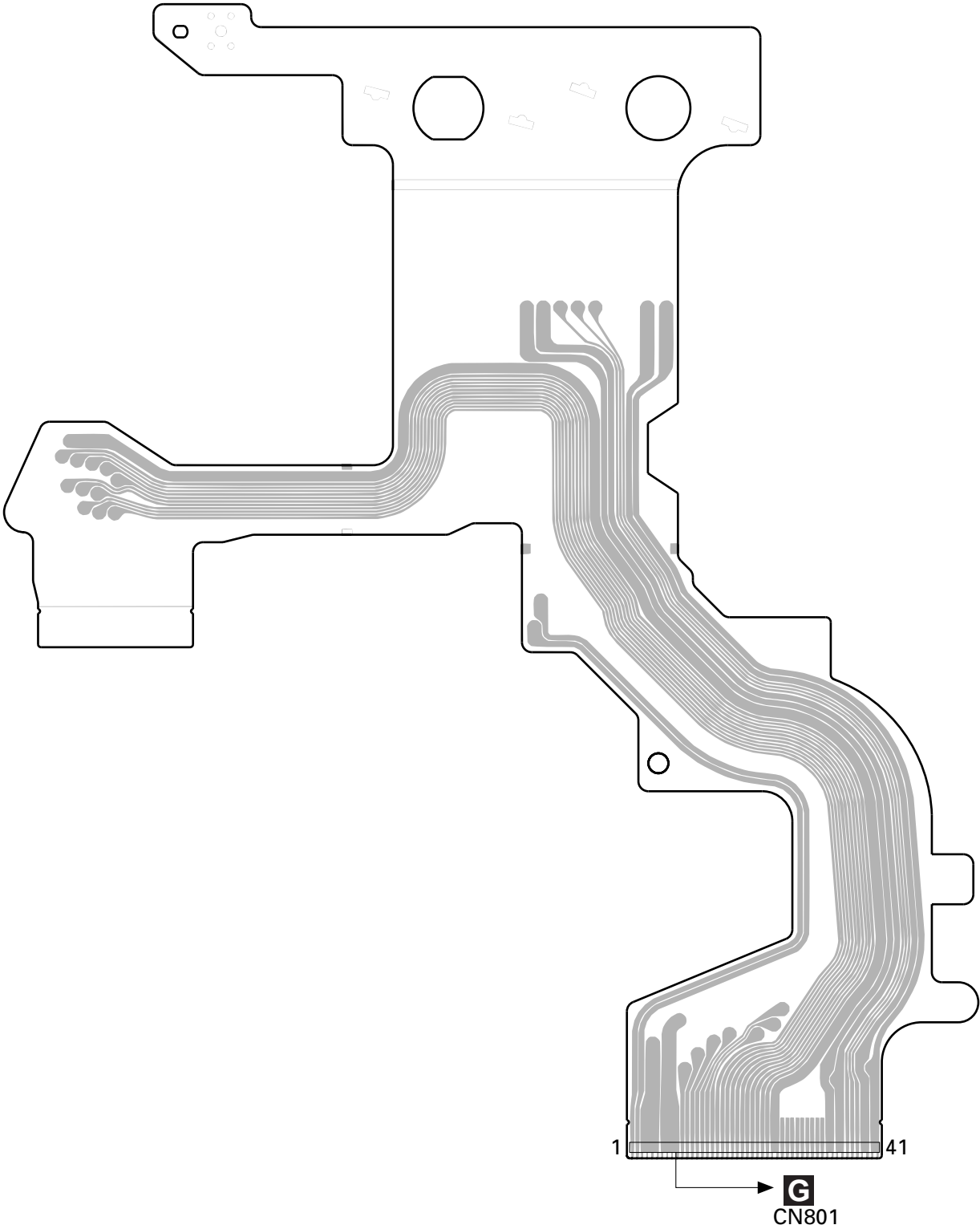
4.8 MOTOR PCB(A)

SIDE A



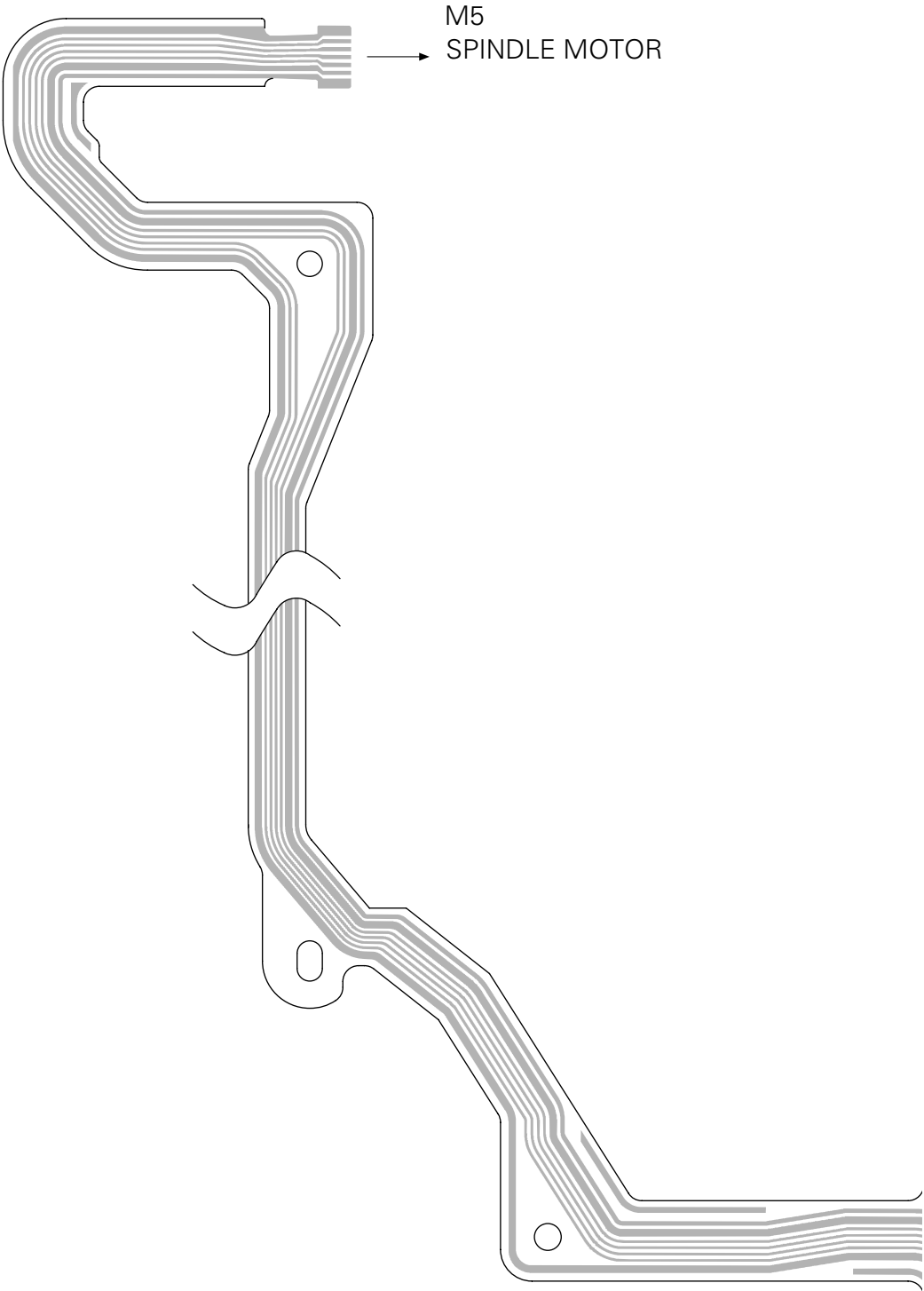
F MOTOR PCB(A)

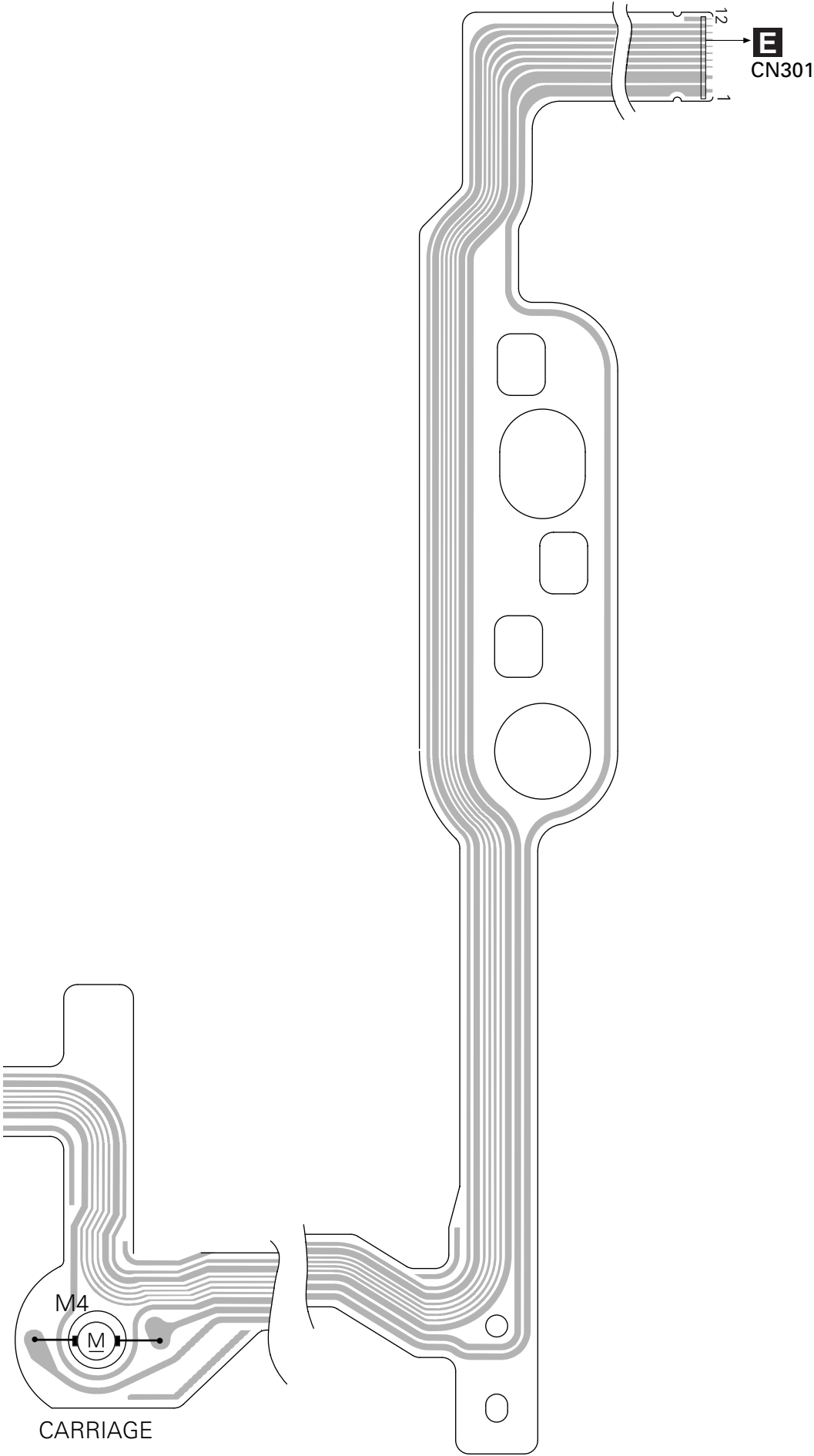
SIDE B



4.9 MOTOR PCB(B)

D MOTOR PCB(B)





A

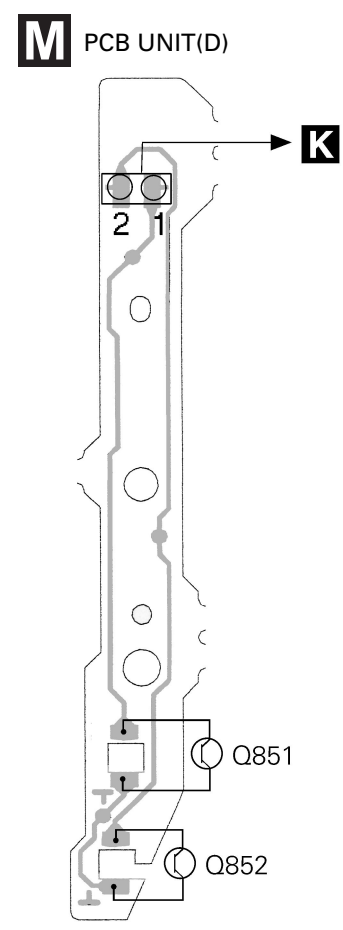
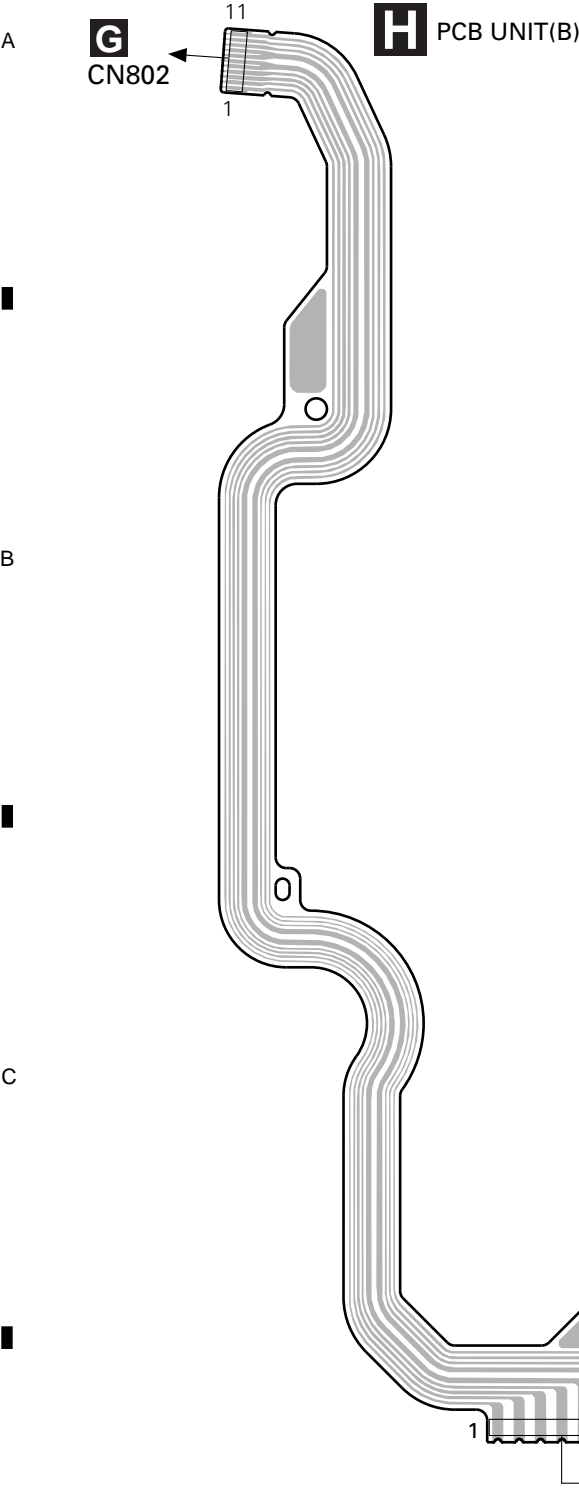
B

C

D

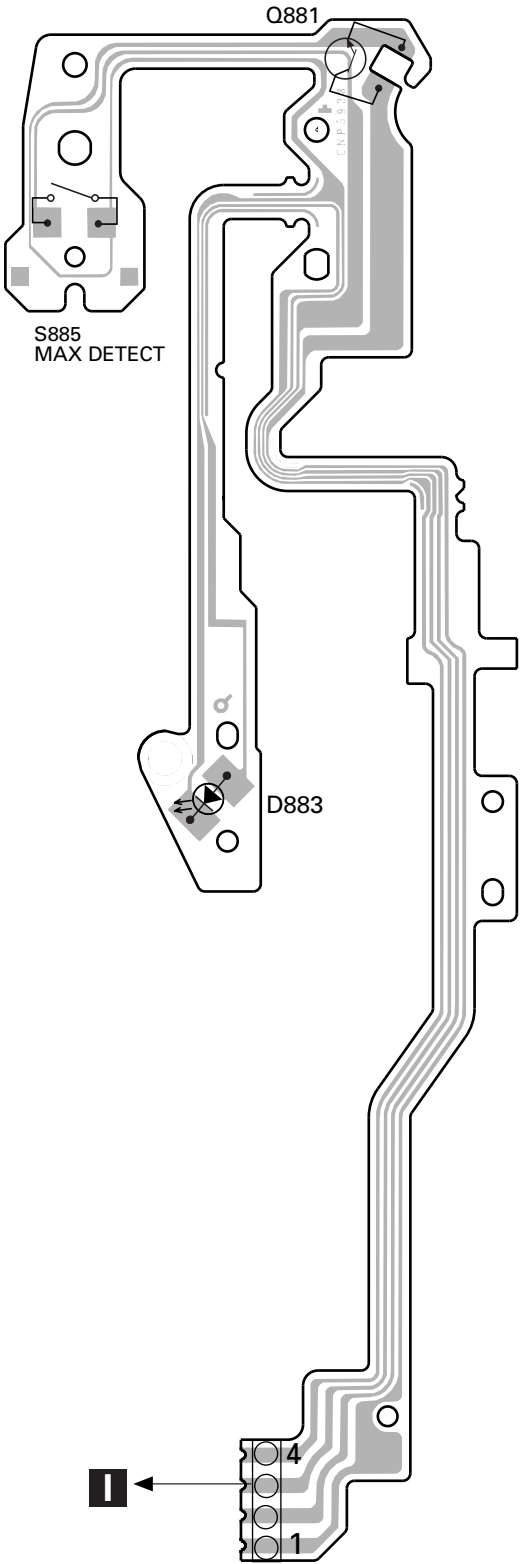
4.10 PCB UNIT(B)

4.11 PCB UNIT(D)



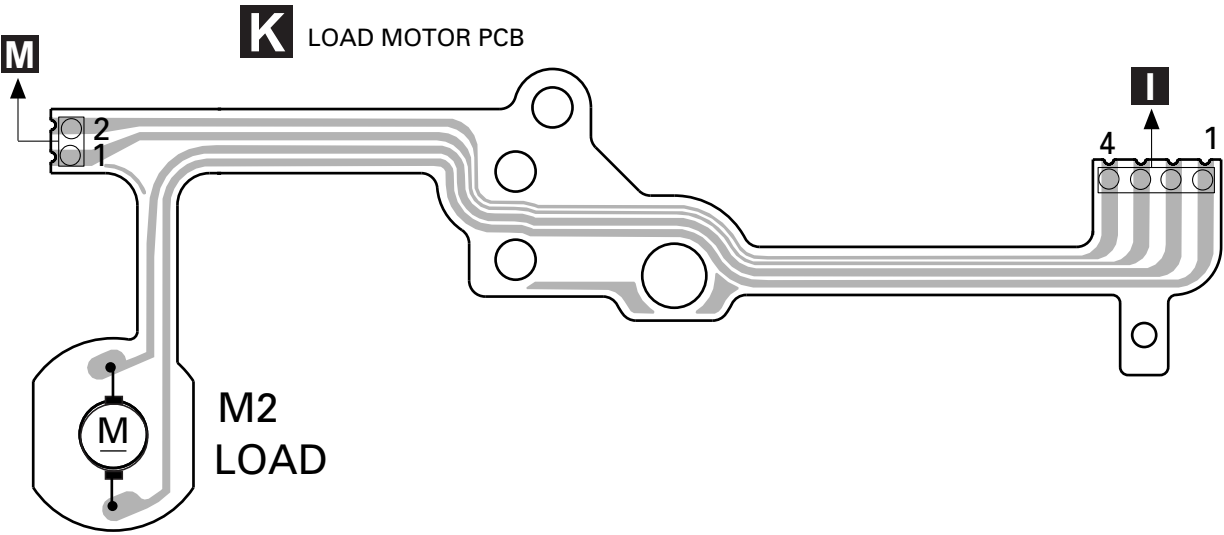
4.12 PCB UNIT(C)

J PCB UNIT(C)



4.13 LOAD MOTOR PCB

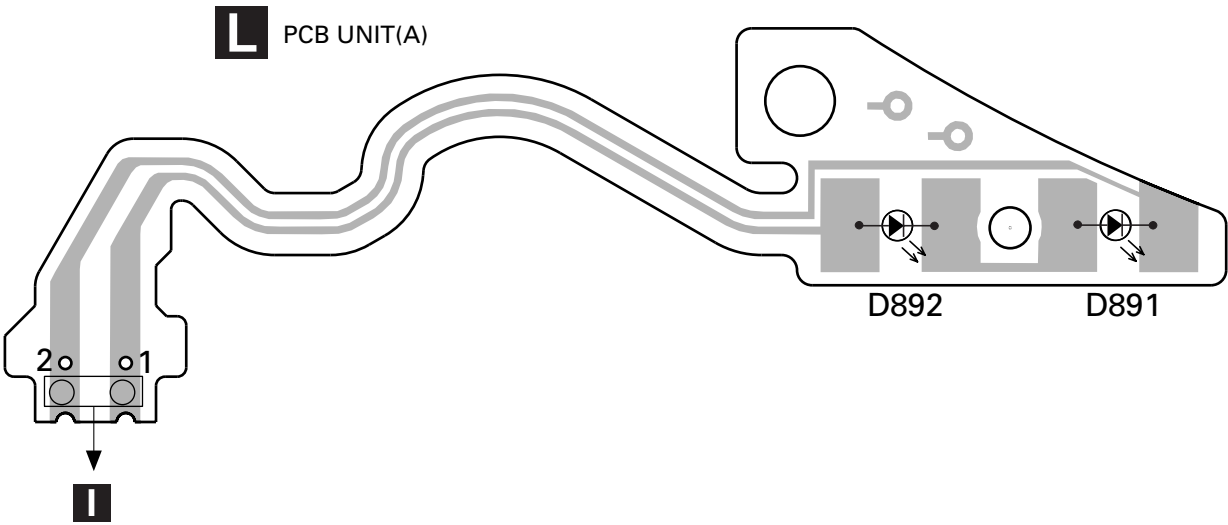
A



B

4.14 PCB UNIT(A)

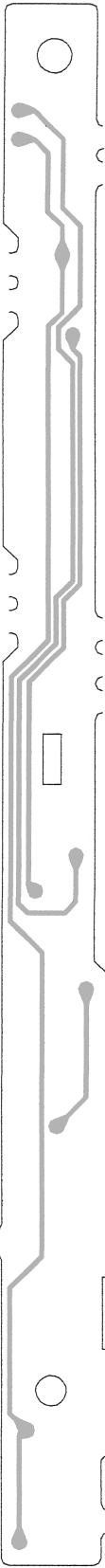
C



D

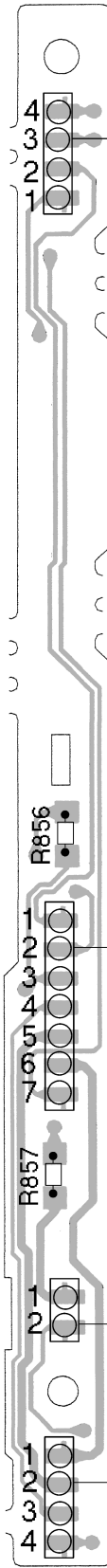
4.15 PCB UNIT(E)

PCB UNIT(E)



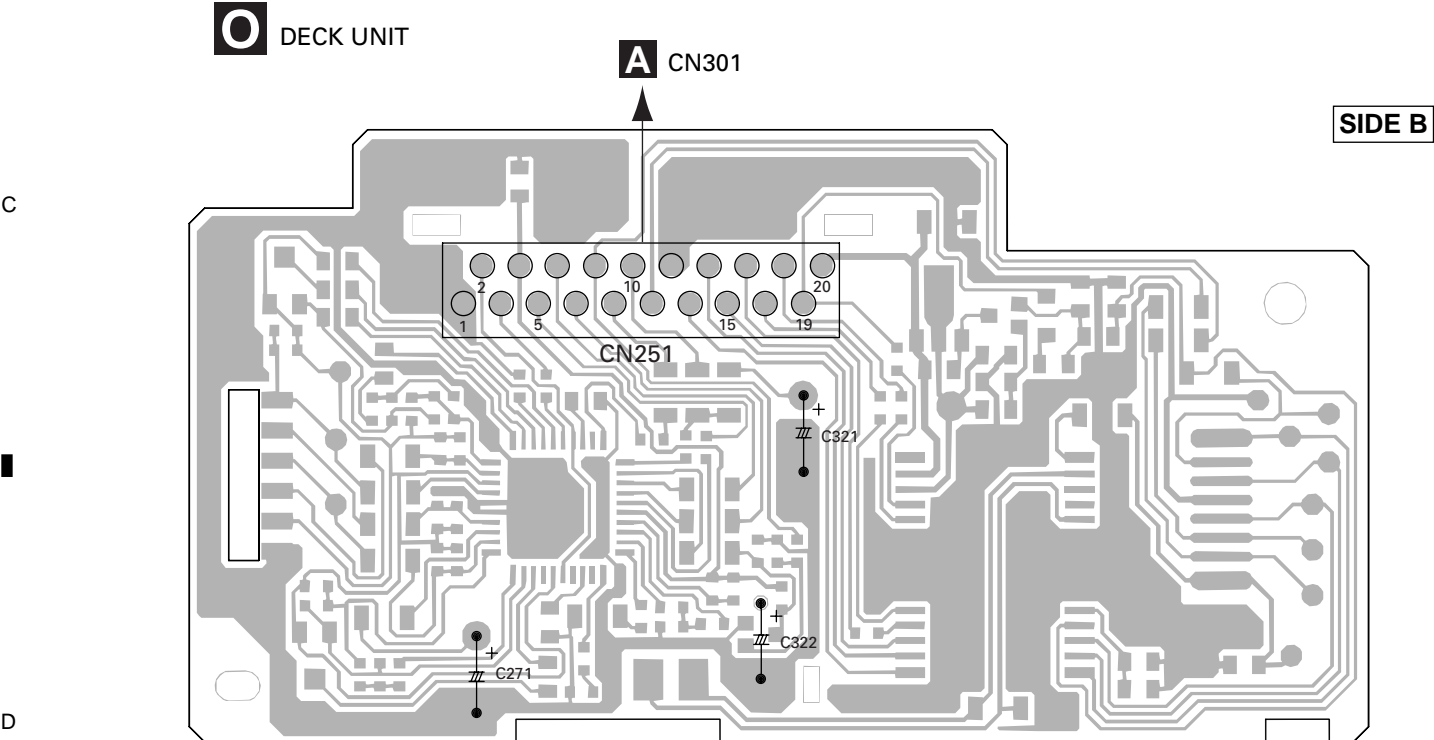
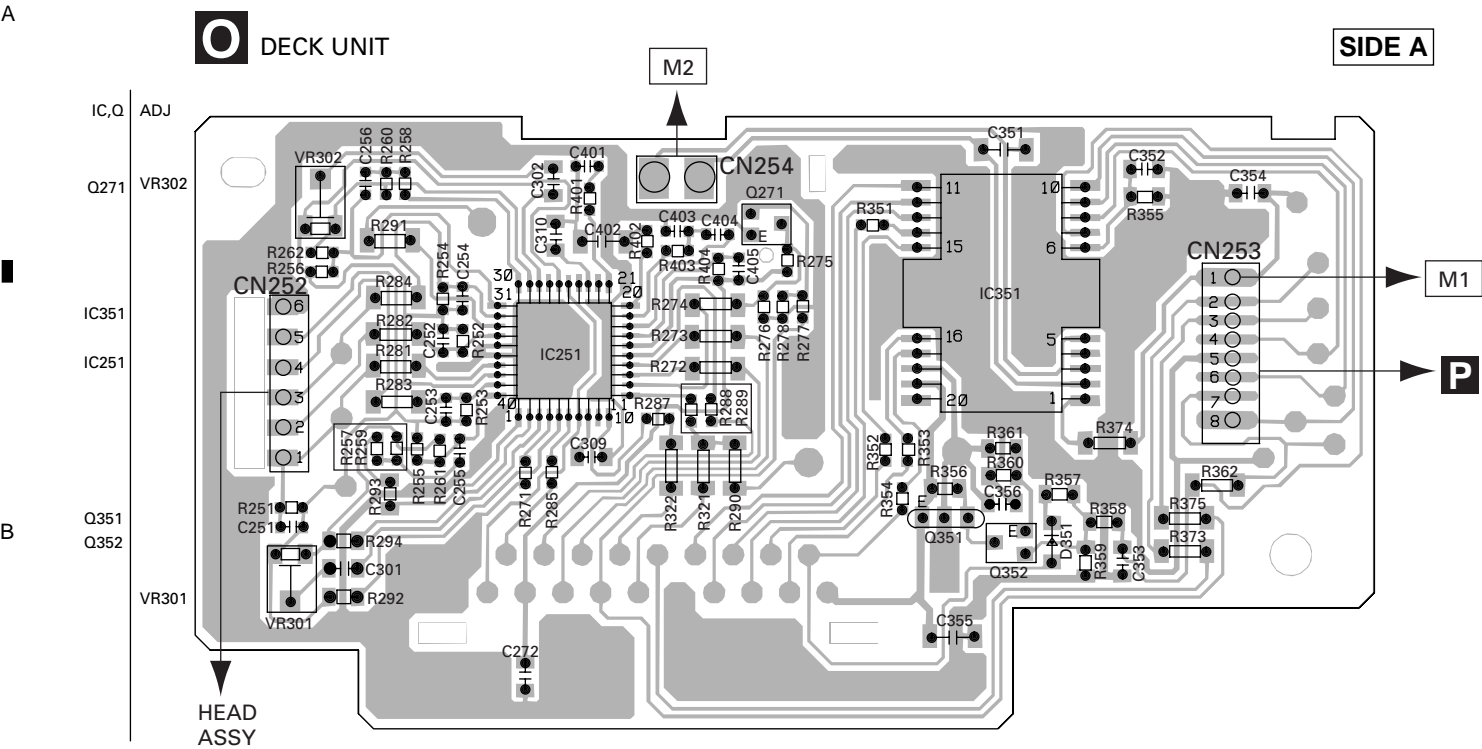
SIDE A

PCB UNIT(E)



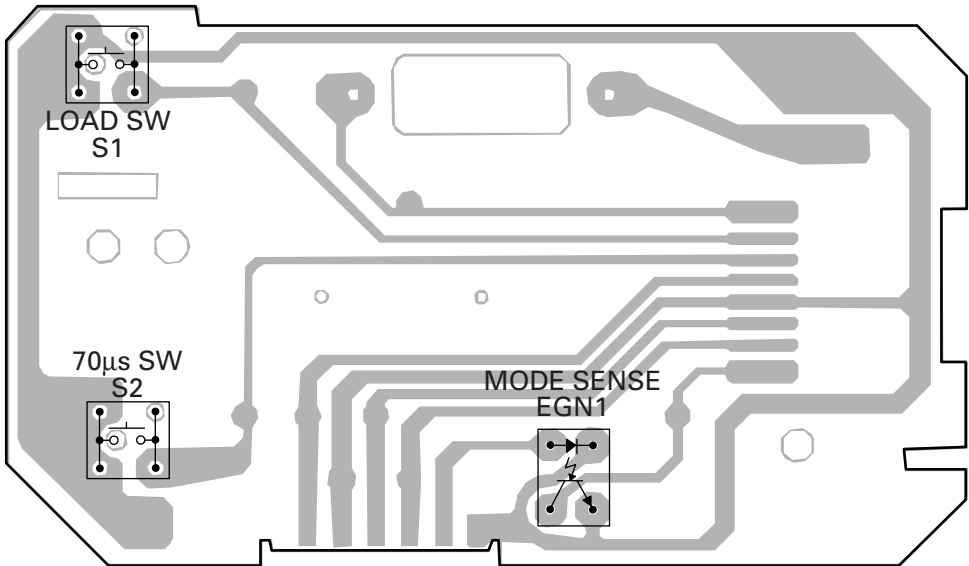
SIDE B

4.16 CASSETTE MECHANISM MODULE



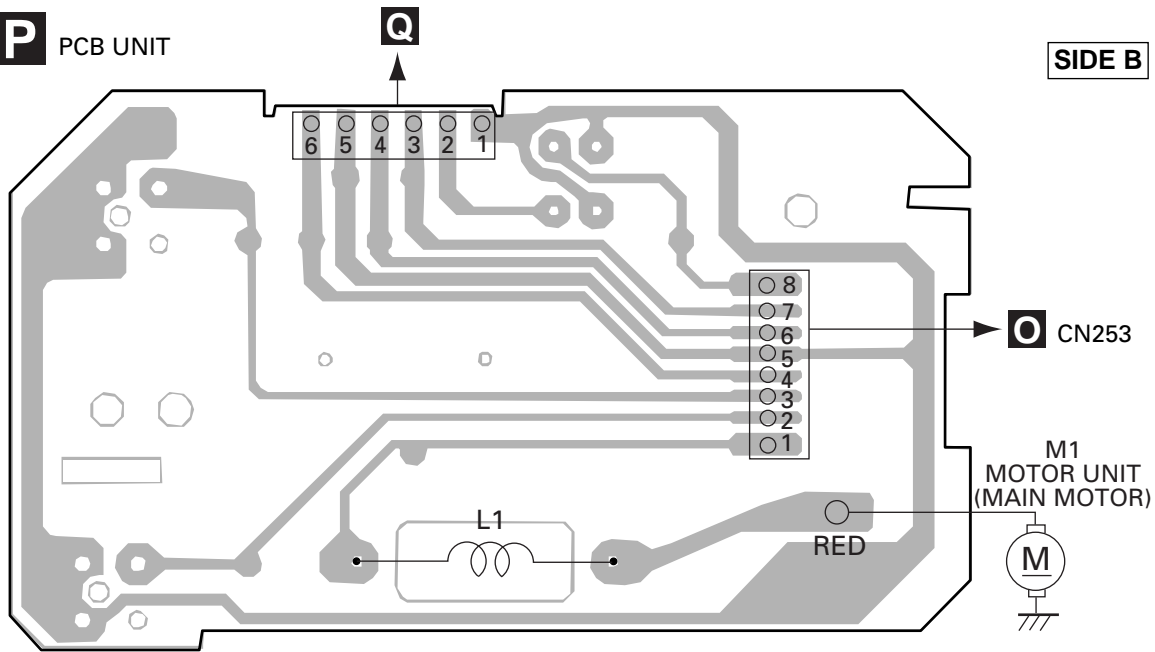
P PCB UNIT

SIDE A

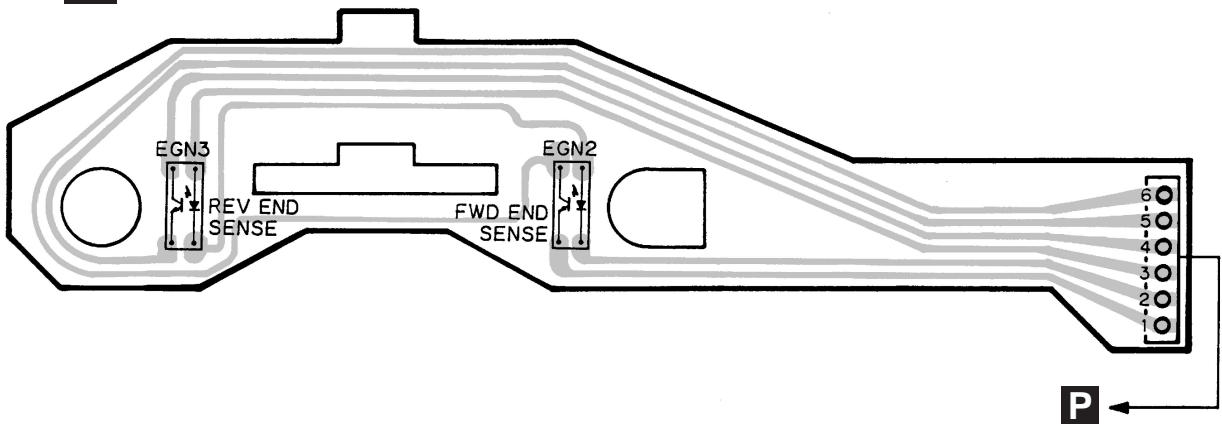


P PCB UNIT

SIDE B



Q REEL PCB



P

P Q

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor
 RS1/○S○○○○J, RS1/○○S○○○○J
 Chip Capacitor (except for CQS.....)
 CKS....., CCS....., CSZS.....

====Circuit Symbol & No.===Part Name			Part No.	====Circuit Symbol & No.===Part Name			Part No.
A	Unit Number : CWM6854			Q	828	Transistor	DTA114EK
	(FX-MG9106ZT/EW)			Q	829	FET	2SJ517
	: CWM6855			Q	830	Transistor	DTC123YK
	(FX-MG9106ZT/ES)			Q	831	Chip Transistor	2SC2712
	Unit Name : Main Unit			Q	833	Transistor	DTC114EK
MISCELLANEOUS				Q	852	Transistor	IMX1
IC	301	IC	NJM2068MD	Q	854	Transistor	IMX1
IC	302	IC	NJM2068MD	Q	856	Transistor	IMD3A
IC	303	IC	NJM2068MD	D	301	Diode	UDZ20(B)
IC	305	IC	TC74HC4066AF	D	302	Diode	UDZ20(B)
IC	601	IC	PD5556B	D	303	Diode	UDZ20(B)
IC	602	IC	HA12187FP	D	304	Diode	UDZ20(B)
IC	603	IC	S-80730ANDT	D	305	Diode	HZU4LL(C)
IC	701	IC	PD5575B	D	601	Diode (EW model)	1SS355
Q	301	Transistor	DTC343TK	D	602	Diode (ES model)	1SS355
Q	302	Transistor	DTC343TK	D	603	Diode (ES model)	1SS355
				D	604	Diode (EW model)	1SS355
Q	303	Transistor	DTC343TK	D	605	Diode	1SS355
Q	304	Transistor	DTC343TK	D	606	Diode	1SS355
Q	305	Transistor	DTC343TK	D	607	Diode	1SS355
Q	306	Transistor	DTC343TK				
Q	307	Transistor	DTC343TK	D	608	Diode	1SS355
				D	609	Diode	1SS355
Q	308	Transistor	DTC343TK	D	610	Diode	1SS355
Q	309	Transistor	DTA114EK	D	611	Diode	UDZ18(B)
Q	601	Transistor	2SA1162	D	612	Diode	UDZ18(B)
Q	602	Transistor	DTA114EK				
Q	603	Transistor	DTA114EK	D	701	Diode	1SS355
				D	801	Diode	1SS355
Q	701	Transistor	DTA144EK	D	802	Diode	UDZS5R6(B)
Q	702	Transistor	DTA114EK	D	803	Diode	ERC05-10BE3
Q	801	Transistor	DTC114EK	D	804	Diode	1SS355
Q	804	Transistor	2SD1664				
Q	805	Chip Transistor	2SC2712	D	805	Diode	UDZ20(B)
				D	806	Diode	ERA15-02VH
Q	806	Chip Transistor	2SC2712	D	807	Diode	UDZS5R6(B)
Q	807	Chip Transistor	2SC2712	D	808	Diode	HZU8R2(B1)
Q	808	Transistor	2SB1132	D	809	Diode	HZU8R2(B1)
Q	809	Transistor	2SB1185				
Q	811	Transistor	2SB1185	D	810	Diode	HZU8R2(B1)
				D	811	Diode	1SS355
Q	812	Transistor	2SB1185	D	812	Diode	HZU8R2(B1)
Q	813	Transistor	2SA1162	D	813	Diode	1SS355
Q	814	Transistor	2SA1162	D	814	Diode	HZU8R2(B3)
Q	816	Transistor	2SD2226K				
Q	817	Chip Transistor	2SC2712	D	819	Diode	ERA15-02VH
				D	821	Diode	HZU8R2(B3)
Q	818	Transistor	2SB1132	L	601	Inductor	LCTB4R7K3216
Q	819	Transistor	2SA1162	L	701	Inductor	LCTB4R7K3216
Q	820	Chip Transistor	2SC2712	L	801	Choke Coil 0.8mH	CTH1239
Q	821	Chip Transistor	2SC2712				
Q	822	Transistor	2SB1132	L	802	Inductor	LCTB4R7K3216
				TH	701	Thermistor	CCX1037
Q	823	Transistor	DTC123YK	X	601	Radiator 10.00MHz	CSS1428
Q	824	Transistor	DTA114EK	X	701	Radiator 6.290MHz	CSS1451
Q	825	Transistor	2SA1162	FU	801	Fuse 5A (EW model)	CEK1195
Q	826	FET	2SJ517				
Q	827	Transistor	DTC123YK				

====Circuit Symbol & No.==Part Name	Part No.	====Circuit Symbol & No.==Part Name	Part No.
RESISTORS		R 627 1kΩ	CCN1120
		R 628 47kΩ	CCN1131
R 301 RS1/10S122J		R 629	RS1/10S102J
R 302 RS1/10S122J		R 630	RA2CQ102J
R 303 RS1/10S473J		R 631	RA3C102J
R 304 RS1/10S473J			
R 307 RS1/10S123J		R 632 1kΩ	CCN1120
		R 633	RS1/10S473J
R 308 RS1/10S123J		R 634	RS1/10S473J
R 309 RS1/10S183J		R 635	RS1/10S102J
R 310 RS1/10S183J		R 637	RA2CQ473J
R 311 RS1/10S223J			
R 312 RS1/10S223J		R 638	RS1/10S102J
		R 639	RA2CQ102J
R 313 RS1/10S911J		R 640	RA3C102J
R 314 RS1/10S911J		R 641 47kΩ	CCN1131
R 315 RS1/10S473J		R 642	RS1/10S102J
R 316 RS1/10S473J			
R 317 RS1/10S911J		R 643	RA3C102J
		R 644	RS1/10S681J
R 318 RS1/10S911J		R 647	RA3C102J
R 319 RS1/10S223J		R 648	RA2CQ102J
R 320 RS1/10S223J		R 649	RS1/10S473J
R 321 RS1/10S223J			
R 322 RS1/10S223J		R 651	RS1/10S104J
		R 652	RS1/4S101J
R 323 RS1/10S222J		R 653	RS1/4S101J
R 324 RS1/10S222J		R 654	RS1PMF680J
R 325 RS1/10S222J		R 701	RS1/10S433J
R 326 RS1/10S222J			
R 327 RS1/10S510J		R 702	RS1/10S103J
		R 703	RS1/10S222J
R 328 RS1/10S510J		R 704	RS1/10S103J
R 329 RS1/10S510J		R 705	RS1/10S102J
R 330 RS1/10S510J		R 706	RA2CQ222J
R 331 RS1/10S103J			
R 332 RS1/10S153J		R 707	RA2CQ103J
		R 708 330Ω	CCN1116
R 333 RS1/10S470J		R 709	RA2CQ222J
R 334 RS1/10S470J		R 710	RS1/10S104J
R 335 RS1/10S470J		R 711	RS1/10S331J
R 336 RS1/10S470J			
R 337 RS1/10S103J		R 712	RS1/10S103J
		R 713	RA2CQ102J
R 338 RS1/10S392J		R 714	RA2CQ222J
R 341 RS1/10S302J		R 715	RA2CQ103J
R 342 RS1/10S302J		R 716	RA2CQ102J
R 343 RS1/10S104J			
R 344 RS1/10S104J		R 717	RS1/10S102J
		R 718	RS1/10S471J
R 345 RS1/10S223J		R 719	RS1/10S102J
R 355 RS1/10S472J		R 720	RA2CQ471J
R 356 RS1/10S102J		R 722	RA2CQ222J
R 601 RS1/10S102J			
R 602 RS1/10S473J		R 723	RA2CQ473J
		R 724	RS1/10S102J
R 605 RS1/10S471J		R 725	RA3C471J
R 606 RA2CQ221J		R 726	RA2CQ102J
R 608 RS1/10S102J		R 727	RA2CQ102J
R 609 RS1/10S681J			
R 610 RA3C102J		R 728 470Ω	CCN1117
		R 729 470Ω	CCN1117
R 611 RA3C473J		R 730 470Ω	CCN1117
R 612 RA2CQ102J		R 731	RS1/10S471J
R 613 RS1/10S473J		R 732	RS1/10S912J
R 614 RS1/10S102J			
R 615 RS1/10S471J		R 733	RS1/10S102J
		R 734 2.2kΩ	CCN1121
R 616 RS1/10S473J		R 735	RS1/10S273J
R 618 RS1/10S472J		R 736	RS1/10S512J
R 619 RA2CQ102J		R 737	RS1/10S104J
R 620 RA2CQ473J			
R 621 RA3C102J		R 738	RS1/10S154J
		R 739	RS1/10S103J
R 622 RA3C473J		R 801	RS1/8S222J
R 623 RS1/10S102J		R 802	RS1/8S472J
R 624 RS1/10S103J		R 803	RS1/8S222J
R 625 RA3C102J			
R 626 RA3C473J			

====Circuit Symbol & No.==Part Name	Part No.	====Circuit Symbol & No.==Part Name	Part No.
R 804	RS1/8S472J	C 313 4.7μF/35V	CCH1016
R 805	RS1/8S222J	C 314 4.7μF/35V	CCH1016
R 806	RS1/8S472J	C 315	CCSQCH330J50
R 807	RS1/8S221J	C 316	CCSQCH330J50
R 809	RS1/10S473J	C 317	CKSQYB331K50
R 810	RS1/10S104J	C 318	CKSQYB331K50
R 811	RS1/10S473J	C 319	CKSQYB682K50
R 812	RS1/10S104J	C 320	CKSQYB682K50
R 813	RS1/10S473J	C 321	CKSQYB682K50
R 814	RS1/10S104J	C 322	CKSQYB682K50
R 815	RS1/10S223J	C 323	CEALNP4R7M16
R 816	RS1/10S122J	C 324	CEALNP4R7M16
R 820	RS1/10S123J	C 325	CEALNP4R7M16
R 821	RS1/10S103J	C 326	CEALNP4R7M16
R 822	RS1/10S103J	C 327	CCSQCH101J50
R 823	RS1/10S223J	C 328	CCSQCH101J50
R 824	RS1/10S102J	C 329	CCSQCH101J50
R 825	RS1/10S331J	C 330	CCSQCH101J50
R 826	RS1/10S103J	C 331	CKSQYB104K50
R 827	RS1/10S471J	C 333	CKSQYB103K50
R 828	RS1/10S102J	C 334	CEJA101M6R3
R 829	RS1/10S223J	C 335	CEJA101M16
R 830	RS1/10S221J	C 336	CKSQYB104K50
R 831	RS1/10S331J	C 337 4.7μF/35V	CCH1016
R 832	RS1/10S471J	C 338 4.7μF/35V	CCH1016
R 833	RS1/10S102J	C 341	CKSQYB104K50
R 840	RS1/4S1R5J	C 342	CEAL4R7M16
R 841	RS1/4S1R5J	C 343	CEAL100M16
R 842	RS1/4S1R5J	C 601	CKSQYB102K50
R 843	RS1/4S1R5J	C 603	CEAL100M16
R 844	RS1/10S471J	C 604	CKSQYB103K50
R 845	RS1/10S471J	C 605	CKSQYB103K50
R 846	RS1/10S105J	C 606	CCSQCH101J50
R 847	RS1/10S361J	C 607	CCSQCH101J50
R 848	RS1/10S1501D	C 608	CCSQCH101J50
R 849	RS1/10S2701D	C 609	CCSQCH101J50
R 850	RS1/4S2R2J	C 610	CCSQCH101J50
R 851	RS1/10S471J	C 611	CCSQCH101J50
R 852	RS1/10S105J	C 612	CCSQCH101J50
R 853	RS1/10S102J	C 613	CCSQCH101J50
R 854	RS1/10S2201D	C 614	CCSQCH101J50
R 855	RS1/10S2401D	C 615	CCSQCH101J50
R 856	RS1/10S103J	C 616	CCSQCH101J50
R 857	RS1/10S102J	C 617	CCSQCH101J50
R 859	RS1/10S103J	C 618	CCSQCH102J50
R 860	RS1/10S103J	C 619	CCSQCH102J50
R 861	RS1/10S103J	C 620	CCSQCH102J50
R 862	RS1/10S102J	C 621	CCSQCH102J50
R 863	RS1/10S103J	C 622	CCSQCH102J50
R 864	RS1/10S102J	C 623	CCSQCH102J50
R 865	RS1/10S473J	C 624	CCSQCH102J50
R 866	RS1/10S104J	C 625	CKSQYB103K50
R 867	RS1/10S223J	C 626	CKSQYB103K50
		C 627	CKSQYB221K50
		C 628	CKSQYB221K50
CAPACITORS			
C 301 4.7μF/35V	CCH1016	C 630	CKSQYB102K50
C 302 4.7μF/35V	CCH1016	C 636	CKSQYB102K50
C 305 4.7μF/35V	CCH1016	C 701	CKSQYB102K50
C 306 4.7μF/35V	CCH1016	C 702	CKSQYB102K50
C 307 4.7μF/35V	CCH1016	C 704	CKSQYB102K50
C 308 4.7μF/35V	CCH1016	C 705	CKSQYB102K50
C 309	CCSQCH330J50	C 706	CKSQYB102K50
C 310	CCSQCH330J50	C 711	CKSQYB102K50
C 311 4.7μF/35V	CCH1016	C 712	CKSQYB102K50
C 312 4.7E F/35V	CCH1016	C 717	CKSQYB102K50

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
C 721	CKSQYB104K50	IL 901	Lamp 8V 60mA
C 722	CEAL100M16	IL 902	Lamp 8V 60mA
C 723	CKSQYB103K50	IL 903	Lamp 8V 60mA
C 724	CKSQYB102K50	IL 904	Lamp 8V 60mA
C 725	CKSQYB102K50	IL 905	Lamp 8V 60mA
C 726	CKSQYB102K50	IL 906	Lamp 8V 60mA
C 727	CKSQYB102K50	IL 907	Lamp 8V 60mA
C 728	CCSQCH101J50	IL 908	Lamp 8V 60mA
C 801	CKSQYB102K50	IL 909	Lamp 8V 60mA
C 802	CEAL1R0M50	IL 910	Lamp 8V 60mA
C 803	CKSQYB102K50	IL 911	Lamp 8V 60mA
C 804 2200μF/16V	CCH1186	IL 912	Lamp 8V 60mA
C 805	CKSQYB473K50	IL 913	Lamp 8V 60mA
C 806	CKSQYB102K50	IL 914	Lamp 8V 60mA
C 807	CEAL1R0M50	VR 901	Encoder
C 808	CKSQYB102K50	VR 903	Volume 50kΩ(B)
C 809 2200μF/16V	CCH1186	VR 904	Volume 50kΩ(B)
C 811	CCSQCH101J50	VR 905	Volume 50kΩ(B)
C 812	CKSQYB103K50	VR 906	Volume 50kΩ(B)
C 813	CEJA330M10	VR 907	Volume 50kΩ(B)
C 814	CEAL1R0M50		LCD (EW model)
C 815	CEAL1R0M50		LCD (ES model)
C 816	CKSQYB103K50		
C 817	CEJA101M16		
C 818	CKSQYB103K50		
C 819 100μF/10V	CCH1282		
C 820	CKSQYB103K50		
C 824	CKSQYB472K50		
C 825 100μF/10V	CCH1282		
C 826	CKSQYB472K50		
C 828	CKSQYB103K50		
C 829	CKSQYB103K50		
C 830	CKSQYB103K50		
C 831	CKSQYB103K50		
C 833	CKSQYB102K50		
C 834	CKSQYB102K50		
C 835	CKSQYB102K50		
C 838	CEAT102M16		
C 839 (EW model)	CKSQYB223K50		
C 840 (EW model)	CKSQYB223K50		
C 841 (EW model)	CKSQYB223K50		
C 842 (EW model)	CKSQYB223K50		
C 843	CKSQYB102K50		
C 893	CKSQYB222K50		
C 894	CKSQYB222K50		
C 896	CKSQYB222K50		
C 897	CKSQYB222K50		

Keyboard Unit
Consists of
Keyboard PCB
Backlight PCB

BC Unit Number : CWM6864
(FX-MG9106ZT/EW)
: CWM6865
(FX-MG9106ZT/ES)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 901	IC	LC75804W
D 901	Chip LED	NSCW310-0371
D 902	Chip LED	NSCW310-0371
D 903	Chip LED	NSCW310-0371
D 904	Chip LED	NSCW310-0371
D 905	Chip LED	NSCW310-0371
D 906	Chip LED	NSCW310-0371
D 907	Diode	MA152WA
D 908	Diode	HZU4R7(B3)
D 910	Chip LED	NSCW310-0371

RESISTORS

R 901	RS1/8S121J
R 902	RS1/8S121J
R 903	RS1/8S121J
R 904	RS1/8S151J
R 905	RS1/8S151J
R 911	RA3C102J
R 912	RA3C223J
R 915	RS1/10S393J
R 916	RS1/10S222J
R 917	RS1/10S222J
R 918	RS1/10S222J
R 919	RS1/10S122J
R 920	RS1/10S681J

CAPACITORS

C 911	CKSQYB104K16
C 912	CKSQYB104K16
C 913	CKSQYB104K16
C 914	CKSQYB102K50
C 915	CKSQYB474K16
C 916	CKSQYB103K50
C 917	CCSQCH101J50
C 918	CCSQCH101J50

E Unit Number : CWX2421
Unit Name : CD Core Unit(Servo Unit)

MISCELLANEOUS

IC 101	IC	UPC2572GS
IC 201	IC	UPD63702AGF
IC 301	IC	BA5986FM
Q 101	Transistor	2SD1664
Q 102	Transistor	UMD2N
D 301	Diode	1SR154-400
L 201	Inductor	LCYBR15J1608
L 202	Inductor	LCYBR15J1608
X 201	Ceramic Resonator 16.934MHz	CSS1457
EF 201	Filter	CCG1076
EF 202	Filter	CCG1076

RESISTORS

R 101	RS1/8S100J
R 102	RS1/8S120J
R 104	RS1/16S822J
R 105	RS1/16S682J
R 106	RS1/16S183J

====Circuit Symbol & No.====Part Name	Part No.	====Circuit Symbol & No.====Part Name	Part No.
R 107	RS1/16S822J	C 126	CKSRYB153K25
R 108	RS1/16S333J	C 127	CKSRYB102K50
R 109	RS1/16S683J	C 201	CKSQYB334K16
R 110	RS1/16S134J	C 202	CKSQYB104K16
R 111	RS1/16S273J	C 203	CKSQYB104K16
R 112	RS1/16S222J	C 204	CKSRYB471K50
R 113	RS1/16S103J	C 207	CKSQYB683K16
R 114	RS1/16S103J	C 208	CKSRYB821K50
R 115	RS1/16S102J	C 209	CKSRYB273K25
R 116	RS1/16S163J	C 210	CKSQYB334K16
R 117	RS1/16S163J	C 211	CKSQYB334K16
R 120	RS1/16S101J	C 212	CKSQYB334K16
R 121	RS1/16S101J	C 213	CCH1349
R 201	RS1/16S104J	C 301	CEV101M10
R 202	RS1/16S103J	C 302	CEV101M10
R 203	RS1/16S332J	<div> <div>G</div> <div> Unit Number : CWX2422 Unit Name : CD Core Unit(STS Unit) </div> </div>	
R 204	RS1/16S752J		
R 205	RS1/16S752J		
R 206	RS1/16S101J		
R 250	RS1/16S331J	MISCELLANEOUS	
R 251	RS1/16S331J	IC 501	IC
R 252	RS1/16S331J	IC 502	IC
R 253	RS1/16S331J	IC 601	IC
R 254	RS1/16S331J	IC 701	IC
R 255	RS1/16S471J	IC 801	IC
R 256	RS1/16S471J	IC 802	IC
R 263	RS1/16S471J	Q 801	Transistor
R 270	RS1/16S101J	Q 802	Transistor
R 271	RS1/16S101J	D 701	Diode
R 274	RS1/16S471J	D 702	Diode
R 277	RS1/16S471J	D 703	Diode
R 301	RS1/16S103J	D 704	Diode
R 302	RS1/16S153J	D 705	Diode
R 303	RS1/16S103J	D 706	Diode
R 304	RS1/16S273J	D 707	Diode
R 305	RS1/16S103J	D 708	Diode
R 306	RS1/16S752J	S 801	Spring Switch(LOAD)
R 307	RS1/16S103J	S 802	Spring Switch(DOOR)
R 308	RS1/16S103J	S 803	Spring Switch(MODE)
R 309	RS1/16S471J	EF 701	Filter
R 311	RS1/16S471J	EF 702	Filter
		EF 703	Filter
CAPACITORS		RESISTORS	
C 101	CEV101M6R3	R 501	RS1/16S102J
C 102	CKSQYB104K16	R 502	RS1/16S202J
C 103	CEV470M6R3	R 503	RS1/16S392J
C 104	CKSQYB334K16	R 504	RS1/16S822J
C 105	CCSRCH240J50	R 505	RS1/16S163J
C 106	CKSRYB222K50	R 506	RS1/16S512J
C 107	CEV4R7M35	R 507	RS1/16S182J
C 108	CKSRYB273K25	R 508	RS1/16S222J
C 109	CCSRCH101J50	R 509	RS1/16S102J
C 110	CKSQYB104K16	R 510	RS1/16S102J
C 111	CKSRYB332K50	R 511	RS1/16S102J
C 112	CKSQYB473K16	R 512	RS1/16S102J
C 113	CKSRYB103K25	R 513	RS1/16S102J
C 114	CKSRYB391K50	R 514	RS1/16S471J
C 115	CCSRCH121J50	R 601	RS1/16S101J
C 116	CKSRYB682K50	R 602	RS1/16S101J
C 117	CKSRYB333K16	R 603	RS1/16S471J
C 118	CKSQYB334K16	R 604	RS1/16S471J
C 119	CKSQYB334K16	R 702	RS1/10S100J
C 120	CKSQYB334K16	R 716	RS1/16S471J
C 121	CKSQYB334K16	R 717	RS1/16S471J
C 122	CKSQYB104K16	R 718	RS1/16S471J
C 123	CKSRYB472K50	R 801	RS1/10S102J
C 124	CKSQYB104K16		
C 125	CCSRCH5R0C50		

====Circuit Symbol & No.==Part Name

Part No.

CAPACITORS

C	501		CKSQYB334K16
C	502		CKSQYB334K16
C	503		CKSQYB334K16
C	504		CCSRCH471J50
C	506		CCSRCH221J50
C	601		CKSQYB334K16
C	602		CCSRCH221J50
C	603		CKSQYB334K16
C	604		CKSQYB334K16
C	605		CSZSR100M10
C	606		CKSQYB334K16
C	701	10μF/10V	CCH1349
C	702		CEVL101M6R3
C	703		CKSQYB334K16
C	704		CKSQYB334K16
C	705		CCSRCH151J50
C	706		CCSRCH151J50
C	707		CCSRCH151J50
C	801		CKSQYB104K25
C	802		CKSQYB104K25
C	803		CEVL220M16

L Unit Number :
Unit Name : PCB Unit(A)

D	891	Chip LED	CL202IRXTU
D	892	Chip LED	CL202IRXTU

H Unit Number :
Unit Name : PCB Unit(B)

S	886	Spring Switch(ELV Home)	CSN1052
S	887	Spring Switch(Clamp)	CSN1051

J Unit Number :
Unit Name : PCB Unit(C)

Q	881	Photo-transistor	CPT230SCTD
D	883	Chip LED	CL202IRXTU
S	885	Spring Switch(MAX DETECT)	CSN1052

M Unit Number :
Unit Name : PCB Unit(D)

Q	851	Photo-transistor	CPT230SCTD
Q	852	Photo-transistor	CPT230SCTD

I Unit Number :
Unit Name : PCB Unit(E)

R	856		RS1/8S911J
R	857		RS1/8S821J

F Unit Number :
Unit Name : Motor PCB(A)

Q	1	Photo-interrupter	RPI-221
M	1	Motor Unit(Cam Gear)	CXB6929
M	3	Motor Unit(ELV)	CXB3175

D Unit Number :
Unit Name : Motor PCB(B)

M	4	Motor Unit(Carriage)	CXB3178
M	5	Motor(Spindle)	CXM1120

K Unit Number :
Unit Name : Load Motor PCB

M	2	Motor Unit(Load)	CXB3177
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====Circuit Symbol & No.==Part Name

Part No.

N Unit Number : CWM6872
Unit Name : SW Unit

MISCELLANEOUS

D	921	LED	SML210FT
D	922	LED	SML210FT
D	923	LED	SML210FT
D	924	LED	SML210FT
D	925	LED	SML210FT
S	924	Spring Switch(DCLOSE)	CSN1052
IL	923	Lamp 8V 60mA	CEL1649
IL	924	Lamp 8V 60mA	CEL1649

RESISTORS

R	931		RS1/8S331J
R	932		RS1/8S331J
R	933		RS1/8S331J
R	934		RS1/8S331J
R	935		RS1/8S331J

CAPACITORS

C	921		CKSQYB104K25
C	922		CKSQYB104K25
C	923		CKSQYB102K50
C	924		CKSQYB102K50
C	925		CKSQYB102K50

C	926		CKSQYB104K25
C	927		CKSQYB104K25
C	928		CKSQYB104K25

O Unit Number : EWM1030
Unit Name : Deck Unit

MISCELLANEOUS

IC	251	IC	HA12216F
IC	351	IC	PA2020A
Q	271	Transistor	2SC4116
Q	351	Transistor	2SB1260
Q	352	Transistor	2SC4102

D	351	Diode	1SS355
VR	301	Semi-fixed 33kΩ(B)	CCP1280
VR	302	Semi-fixed 33kΩ(B)	CCP1280

RESISTORS

R	255		RS1/16S181J
R	256		RS1/16S181J
R	257		RS1/16S183J
R	258		RS1/16S183J
R	259		RS1/16S133J

R	260		RS1/16S133J
R	261		RS1/16S274J
R	262		RS1/16S274J
R	271		RS1/16S183J
R	272		RS1/8S0R0J

R	273		RS1/8S0R0J
R	275		RS1/16S473J
R	276		RS1/16S104J
R	277		RS1/16S224J
R	278		RS1/16S104J

R	281		RS1/8S0R0J
R	282		RS1/8S0R0J
R	283		RS1/8S0R0J
R	284		RS1/8S0R0J
R	285		RS1/8S0R0J

====Circuit Symbol & No.===Part Name	Part No.	====Circuit Symbol & No.===Part Name	Part No.
R 286	RS1/8S0R0J	Miscellaneous Parts List	
R 287	RS1/8S0R0J		
R 288	RS1/8S0R0J		
R 292	RS1/8S0R0J		
R 296	RS1/16S0R0J		
R 321	RS1/8S0R0J		
R 322	RS1/16S0R0J		
R 351	RS1/16S102J		
R 352	RS1/16S102J		
R 353	RS1/16S102J		
R 354	RS1/16S102J		
R 355	RS1/10S274J		
R 356	RS1/10S202J		
R 357	RS1/10S472J		
R 358	RS1/10S103J		
R 359	RS1/10S103J		
R 360	RS1/10S102J		
R 361	RS1/10S622J		
R 362	RS1/8S181J		
R 373	RS1/8S0R0J		
R 374	RS1/8S0R0J		
R 375	RS1/8S0R0J		
R 401	RS1/16S123J		
R 402	RS1/16S332J		
R 403	RS1/16S911J		
R 404	RS1/16S274J		

CAPACITORS

C 251	CKSRYB391K50
C 252	CKSRYB391K50
C 253	CKSRYB391K50
C 254	CKSRYB391K50
C 255	CKSRYB103K50
C 256	CKSRYB103K50
C 271	CEV1R0M50
C 272	CKSQYB104K16
C 301	CKSRYB104K16
C 302	CKSRYB104K16
C 309	CKSQYB104K16
C 310	CKSQYB104K16
C 351	CKSYB224K25
C 352	CKSQYB392K50
C 353	CKSQYB103K50
C 354	CKSQYB103K50
C 355	CKSYB104K50
C 356	CKSQYB103K50
C 401	CKSQYB472K50
C 402	CKSQYB334K16
C 403	CKSQYB223K25
C 404	CKSRYB103K50
C 405	CKSRYB333K16

P

Unit Number :
Unit Name : PCB Unit

L 1	Inductor	ETH0002
S 1	Switch (LOAD)	ESG1004
S 2	Switch (70μs)	ESG1004
EGN 1	Photo-Interrupter	EGN1005

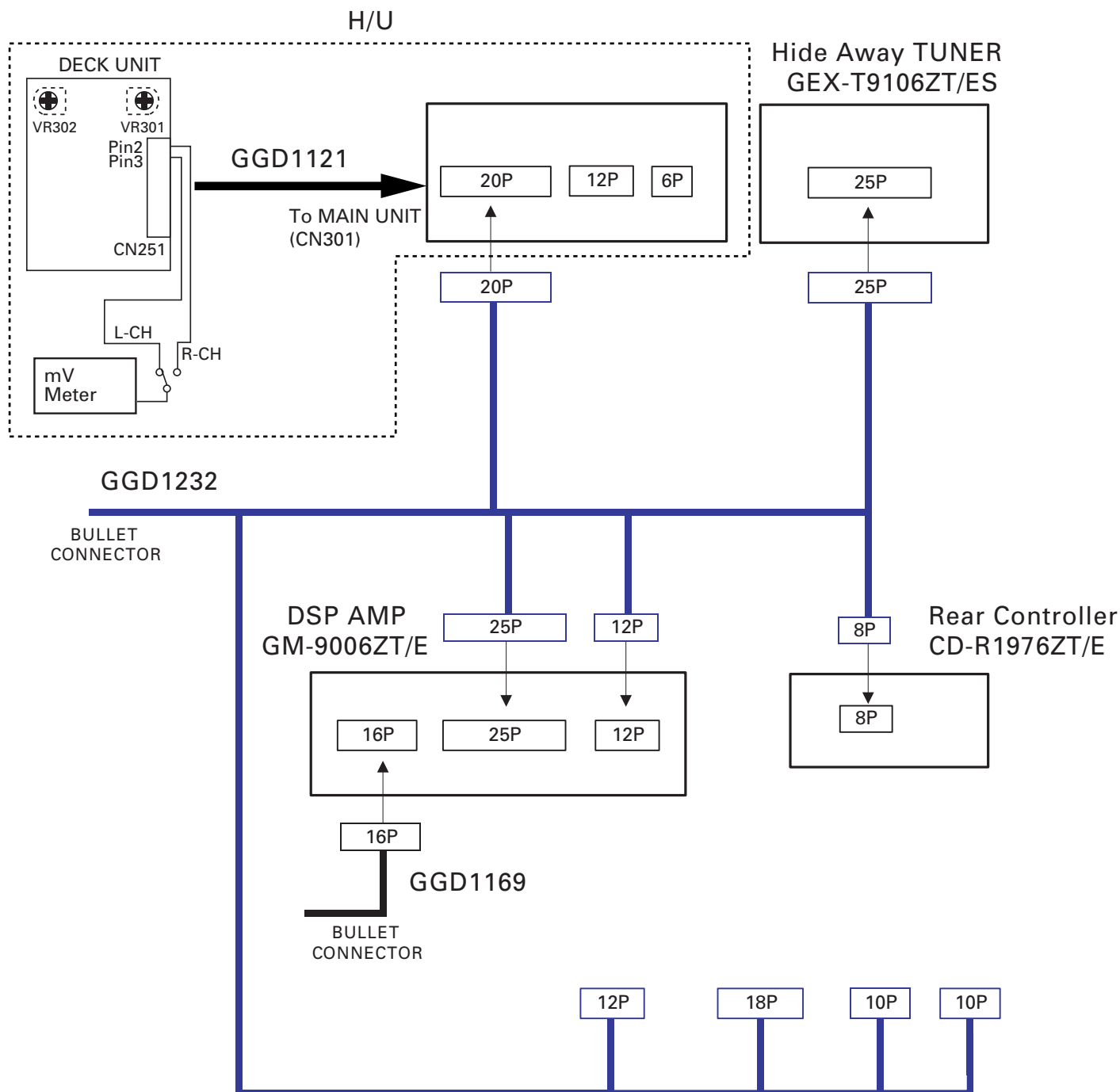
Q

Unit Number :
Unit Name : Reel PCB

EGN 2	Photo-Interrupter	EGN1006
EGN 3	Photo-Interrupter	EGN1006

6. ADJUSTMENT

● CONNECTION DIAGRAM



6.1 AUDIO ADJUSTMENT

DOLBY NR ADJUSTMENT

No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter : $-8.24\text{dBm}(300\text{mV}) \pm 1\text{dB}$ (DOLBY NR Switch : OFF)

6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

• Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• Purpose :

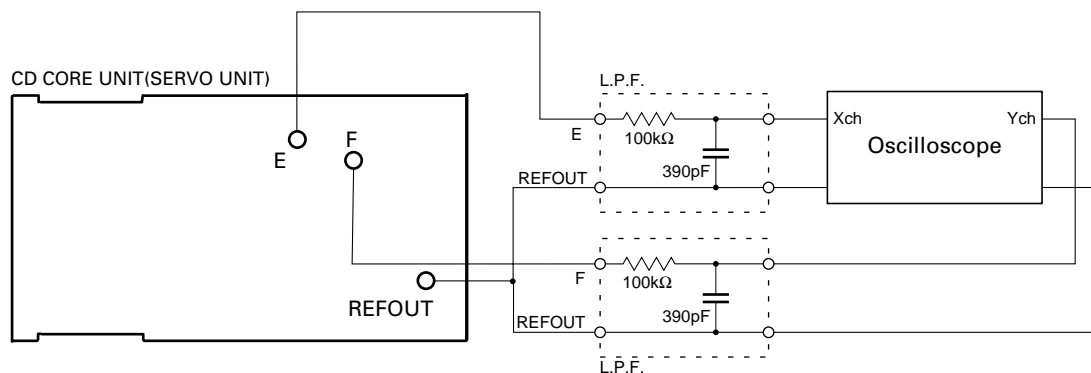
To check that the grating is within an acceptable range when the PU unit is changed.

• Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• Method :

- | | |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points | • E, F, REFOUT |
| • Disc | • ABEX TCD-784 |
| • Mode | • TEST MODE |



• Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the TRACK UP and TRACK DOWN buttons, move the PU unit to the innermost track.
3. Press key **5** to close focus, the display should read "91". Press key **3** to implement the tracking balance adjustment the display should now read "81". Press key **5 4** times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

• Note

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• Hint

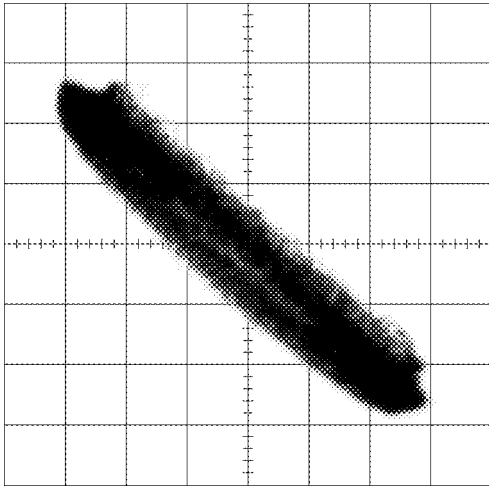
Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

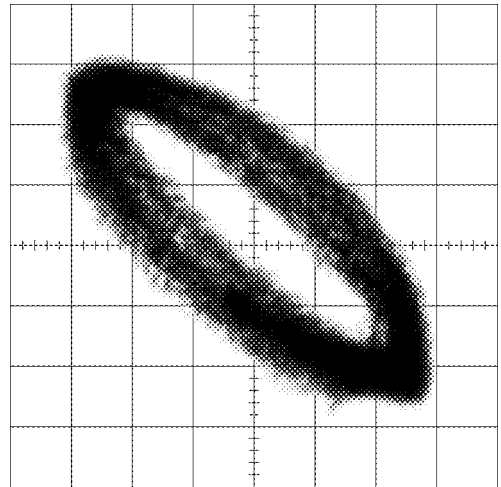
Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC

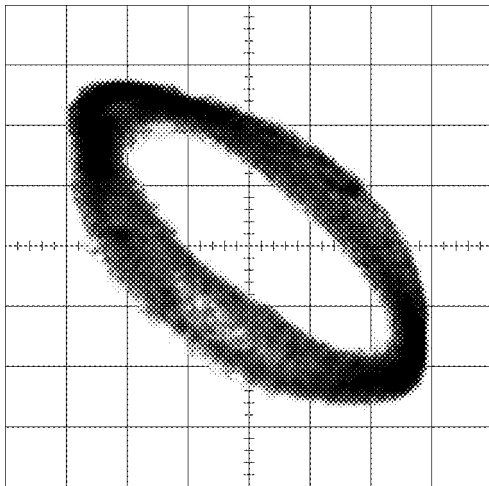
0°



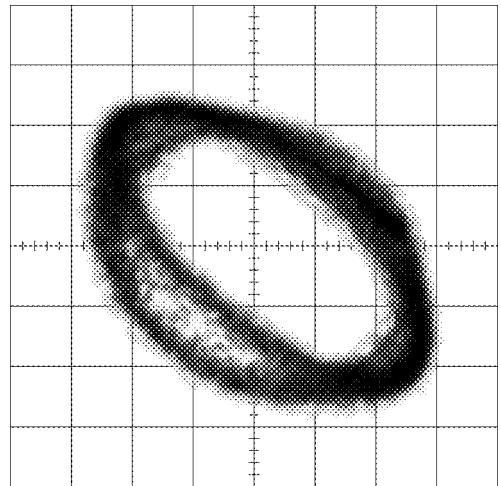
30°



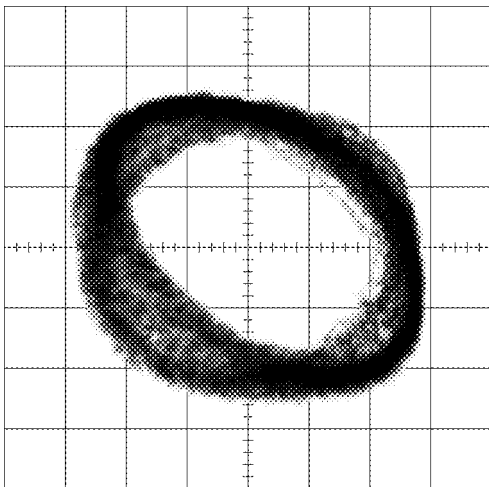
45°



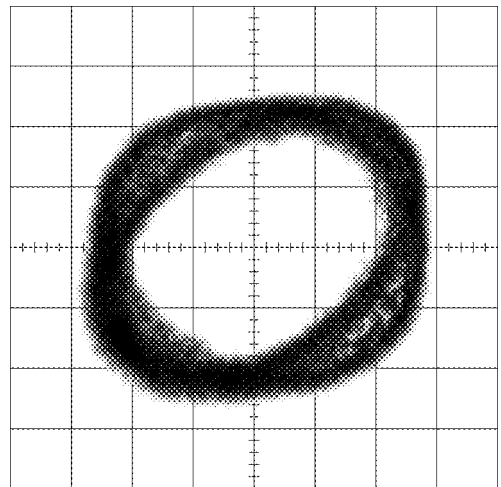
60°



75°



90°



7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

● CD Test Mode

1) Precautions on Adjustment

- The unit employs a single voltage (+5V) for the regulator, thus the reference potential of the signal is RFOUT (approximately 2.5V) rather than GND.

Inadvertent contact of RFOUT and GND during adjustment can result not only in disabling normal potential measurement but also in exposing the pickup to strong impacts due to malfunctioning of the servo. Therefore, you are requested to observe the following precautions.

- Make sure that the negative probe of the measuring instrument is not connected to RFOUT or GND. Special care must be exercised so that the channel 1 negative probe may not be connected to the oscilloscope and the channel 2 negative probe to GND. Since the frame of the measuring instrument is usually at the same potential as the negative probe, the frame of the measuring instrument must be changed to floating status.

When RFOUT is inadvertently connected to GND, you must immediately turn off the regulator or power supply.

- The regulator must be turned off before mounting or dismounting filters or wiring materials.
- You should not start adjustment or measurement immediately after the regulator is turned on. It is recommended to run the player for approximately one minute so that it may stabilize.
- When the test mode is turned on, various protective functions from the software become unavailable. Thus, you must make sure that undesirable electric or mechanical shocks are not be given to the system.
- This model employs a photo-transistor for detecting discs at their loading or ejection. Thus, if its outer case is removed during repair work and internal parts are exposed to light of strong intensity, malfunctions including the following can result:
 - * The eject button becomes inoperable during play. Pressing the eject button does not eject a disc and play is continued.
 - * Loading becomes unavailable.

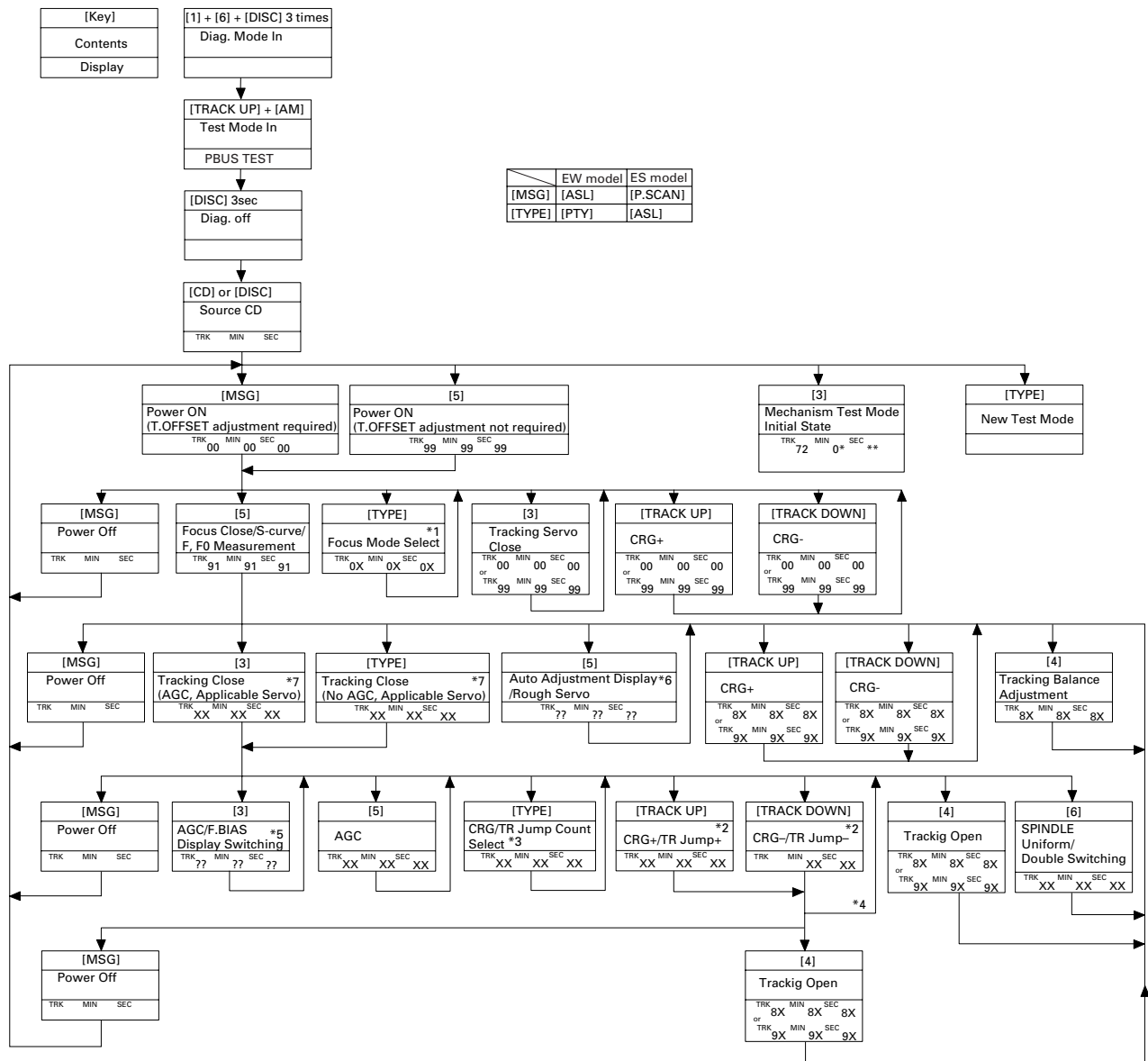
If a malfunction is recognized, appropriate remedial actions must be taken. Such actions include changing the light source position, changing the unit position and applying a cover to the photo-transistor.

- When you press the EJECT key to eject a disc, you must not touch any other key until the ejection is complete.
- If you press the TRACK UP or TRACK DOWN for the focus search in the test mode, you must turn the power off immediately. (Otherwise, the lens will be forced to stick to the top or bottom, potentially resulting in the burning of the actuator.)

2) Description of the Test Mode

- Turning on the Test Mode
See page 73.
- Ending the Test Mode
Apply the reset (the reset will be applied three minutes after the power is turned from off).
- Operation of TR JUMPs (except 100TR) continues after your finger has left the key. CRG, MOVE and 100TR JUMP are forced to the tracking close mode as soon as the key is released.
- Turning the power on or off resets the JUMP MODE to the Single TR.

● CD Player Flow Chart



Switching must take place in the following sequence.

***1) Switching must take place in the following sequence.**

Focus Close → S.Curve Check → Focus EQ Measurement.

*2) Single TR / 4TR / 10TR / 32TR / 100TR

*3) Switching must take place in the following sequence.

Single TR → 4 TR → 10 TR → 32 TR → 100 TR → CRG Move
9X(8X):91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

***4) It applies to the CRG Move and 100TR Jump alone.**

*5) Switching must take place in the following sequence.
Min/Sec (or Track No.) → F.AGC Gain → T.AGC Gain → F. BIAS Setting

$$(\text{AGC Gain} = (\text{Current value}/\text{Initial value}) \times 20)$$

*6) Switching must take place in the following sequence.

F.Cancel Display → T.Offset Display → T.Bal Display → Rough Servo.

(F.Bias value, F.Cancel value, T.Offset value, T.Bal value
= (Upper 8 bits of the setting (7F[H] to 80[H] + 128)/4
= 63[D] to 32[D] to 00[D])).

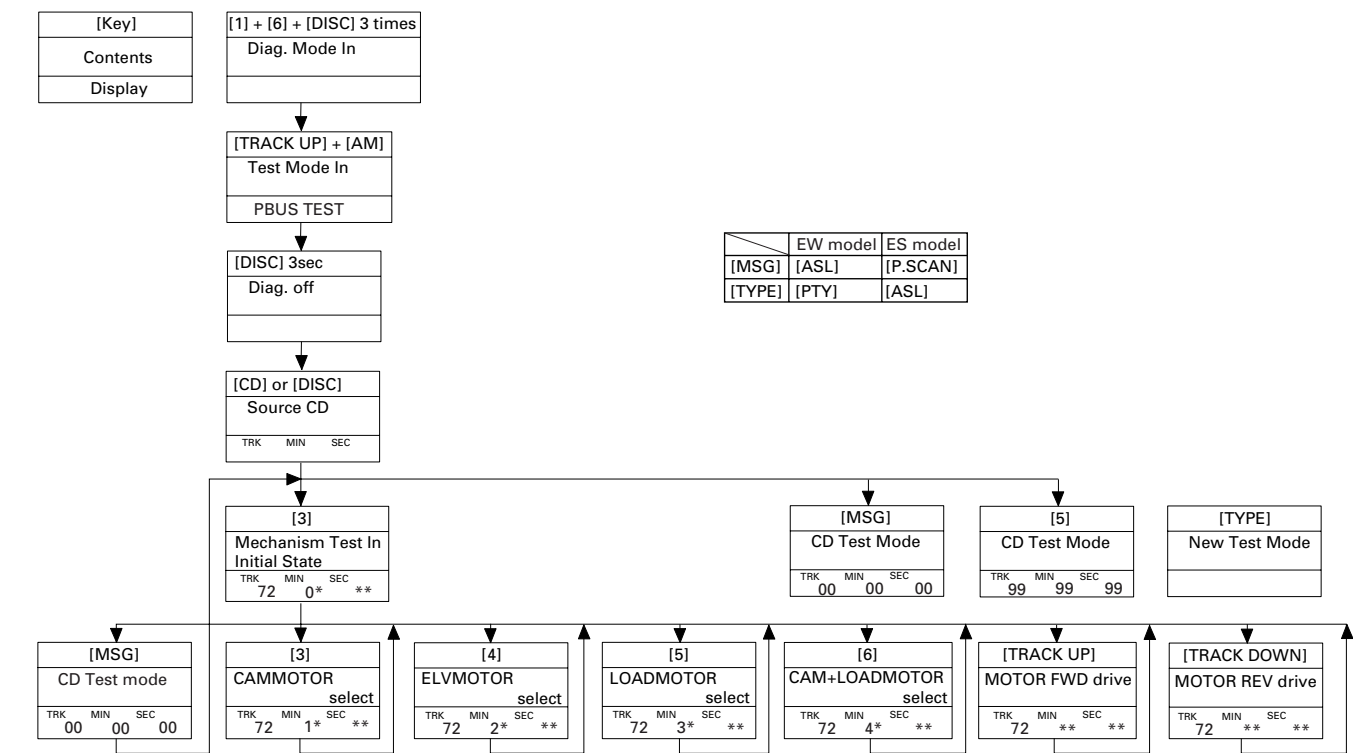
*7) Sound is unavailable even after the tracking has been closed (this trouble results when the IC for the STS is not controlled in the test mode).

Note: •When you pressed the [TRACK UP] or [TRACK DOWN] key during the Focus Search, you must turn the power off immediately (otherwise, the lens can stick resulting in actuator damages).

- Operation of TR JUMPs other than 100TR is continued after your finger has left the key. CRG Move and 100TR Jump are forced to the Tracking Close Mode when the key is released.
- Powering on or off resets the Jump Mode to the Single TR (91).
- When ending the test mode, apply the reset (the reset is applied in three minutes from powering off).

[Key]	Operation	
	Test Mode	New Test Mode
[MSG] B0H	Power ON/OFF	Error occurrence time/ Cause display switching
[TRACK UP] B1H	CRG+/TR Jump+ (Toward outer perimeter)	Track+/FF
[TRACK DOWN] B2H	CRG-/TR Jump- (Toward inner perimeter)	Track-/REV
[3] B3H	Tracking Close/AGC gain, F.Bias adjustment value display switching	—
[4] B4H	Auto Tracking Balance adjustment/ Tracking Open	Mode
[5] B5H	Focus Close, S.Curve, F.EQ measurement/ Rough Servo/AGC	—
[6] B6H	Focus Open	RANDOM
[TYPE] B8H	Focus Mode select/Tracking Close/ CRG*TR Jump Switching	Auto/Manual switching
[2] A8H	DISC UP	DISC UP
[1] A9H	DISC DOWN	DISC DOWN
[EJECT] D1-D6	DISC Eject	DISC Eject
[LOAD] 61-66	DISC Load	DISC Load

CD Mechanism Test Mode Flow Chart



EW model ES model

[MSG] [ASL] [P.SCAN]

[TYPE] [PTY] [ASL]

<Screen Display during Mechanism Test Mode>

TRK : 72

MIN : Upper (10th order): Type of motors selected

Lower (order of 1): State of DISC sensing phototransistor and switch

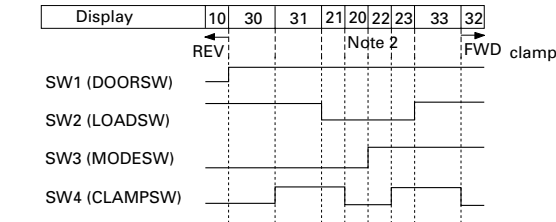
PH1	PH2	MAXSW	Display
L	L	L	*0
H	L	L	*1
L	H	L	*2
H	H	L	*3
L	L	H	*4
H	L	H	*5
L	H	H	*6
H	H	H	*7

L: Phototransistor is OPEN and switch is ON.
 H: Phototransistor is CLOSE and switch is OFF.

SEC: ① When ELV motor is selected, ELV position is displayed

01: ELV at home position (1st disc).
 10: ELV at a position other than home (2nd to 6th).
 11: ELV moving to a specified position. * Note 1.
 00: Not used (for an error)

② When CAM.LOAD motor is selected:
 Indicates CAM SW (CAM gear) status.



[Key]	Operation
[MSG] B0H	Mechanism Test is initialized.
[TRACK UP] B1H	Valid only when the motor selected (using the [F3] to [F6] keys) is driven in FWD direction.
[TRACK DOWN] B2H	Valid only when the motor selected (using the [F3] to [F6] keys) is driven in REV direction.
[3] B3H	CAMMOTOR is selected.
[4] B4H	ELVMOTOR is selected.
[5] B5H	LOADMOTOR is selected.
[6] B6H	CAM + LOADMOTOR is selected.
[2] A8H	DISC UP
[1] A9H	DISC DOWN
[EJECT] 43H	DISC Eject
[LOAD] 60H	DISC Load

Precautions

- * The keys are inoperable as long as operation of the mechanism is continued.
- * When driving the CAMMOTOR in 31 → 30 → 10 (in REV direction), the elevation position must be at the EJECT/LOAD position (the top position).

Note 1: When the elevation is situated at the Note 1 position, move of any motor other than the REV is disabled.

Note 2: Before performing the elevation, make sure that the CAM SW (switch) is set to a position between 22 and 20.

As a rule, driving of the ELV MOTOR must be started immediately after the CAMSW indication has changed from 22 to 20.

○ Operating Procedures for Ejecting a Clamped Disc

- ① Select CAMMOTOR using [3], then press the [TRACK DOWN] while the disc is being clamped (CAMSW state is 32).
The CAMSW status indication sequentially changes through 32→33→23→22.
- ② When the disc to be ejected is not identical with the disc being clamped, select the [4] ELVMOTOR in the vicinity of where the display changes from 22 to 20, then match the elevation to the disc to be ejected according to the following procedures:
After selecting ELVMOTOR, lower the elevation until the ELV position display becomes 01 (1st disc) using the [TRACK DOWN].
Drive the elevation up until the display is changed to 10 using the [TRACK UP]. This is the elevation where the second disk is situated.
The next display of 10 tells you the elevation of the 3rd disc. Repeating this operation allows you to establish an elevation matching each disc. (When the elevation is driven from the 1st through 6th disc, the status display changes as 01→11→10→11→10→11→10→11→10→11→10.)
(When the disc to be ejected coincides with the disc being clamped, the above operations are not necessary.)
- ③ Select the [3] CAMMOTOR and then, using the [TRACK DOWN], drive it until the display changes from 20 (or 22) to 21 and 31.
- ④ Select the [4] ELVMOTOR, then drive the tray of the disc to be ejected up to the EJECT/LOAD position (using the [TRACK UP]).
- ⑤ Select the [6] CAM+LOADMOTOR, then drive it in the REV direction until the display changes from 31 to 30 and 10.
The door will open immediately before the display changes to 10 and part of the disc will be pushed out.
- ⑥ When 10 is displayed, select the [5] LOADMOTOR, then drive it in REV direction until the disc is completely ejected.

● Error No. Display

The error mode is turned on if a CD player becomes not playable or is forced to halt due to an error. Cause(s) of an error will be indicated with numerical characters. The error-number-display function is intended to facilitate the error analysis and resulting repair work.

(1) Error Code

Error code	Category	Troubles	Description/Cause(s)
10	Electricity	Carriage home error	Unable to move to or from inner perimeter → Failure on home switch or carriage move trouble.
11	Electricity	Focus search error	Unable to set a focus → Scratches or stains on backside of the disc, severe vibrations, CD-R is not written to the disc (it can happen on the backside of the disc).
12	Electricity	Spindle lock error Sub-code error	Spindle lock unavailable, sub-code unreadable → Failure on spindle, scratches on the disc, stains or strong vibrations.
14	Electricity	Mirror error	MIRR signal error continues for 500 msec or more → Stains on the disc or strong vibrations.
17	Electricity	Setup error	AGC protection cannot be turned on in time or focus can be easily lost → Scratches or stains on the disc or strong vibrations.
19	Electricity	Tracking Balance error	Tracking error level is low or tracking balance adjustment is unavailable → Failure on the pickup or tracking-error circuit.
30	Electricity	Search time-out	Target address can't be reached → Failure on the carriage/tracking or scratches on the disc.
A0	System	Error on power supply	Ground fault of power supply (VD) → Failure on switching transistor or failure of power supply.
—		High temperature stand-by	Temperature error (High temperature).

Error code	AVC-LAN Error code
11, 12, 14, 17, 19, 30	ERROR1
10	ERROR3
A0	ERROR4
—	WAIT

Code	Name	Description
20	Door OPENING	While the mechanism is in operation, should have been closed a door was opened.
21	Roller OFF time-out	4 seconds have elapsed before completing the roller OFF (the cam gear has not been rotated to the roller-OFF end position).
22	Roller SET time-out (Roller OFF time-out)	4 seconds have elapsed before completing the roller SET. (During the roller OFF operation, 4 seconds have elapsed while the cam gear is rotating in REV direction.)
23	Door CLOSING	Door can't be closed when the roller OFF has ended.
24	Cam started from invalid position	The cam gear attempted to do roller OFF/roller SET from an invalid position.
26	Foreign substance on photo-transistor (before closing the door)	Foreign substance was found on the photo-transistor when closing the door after the loading is complete. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.
29	Roller being caught	Although the cam gear has been rotated up to the roller OFF end position, the roller can't be moved to the standby position.
41	Lift DOWN time-out	4 seconds have elapsed before completing the lift DOWN operation.
42	Lift UP time-out (Lift DOWN time-out)	4 seconds have elapsed before completing the lift UP operation. (During the lift DOWN operation, 4 seconds have passed with the cam gear rotating in REV direction.)
45	Lift DOWN cam displacement	The lift DOWN complete cam gear has been displaced from its specified position.
52	EJECT time-out	8 seconds have elapsed before completing the EJECT operation. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.
57	Photo-transistor being caught after forced EJECT	When forced eject was employed for the Bup failure during loading or ejection, an error will be indicated if the disk is still caught by the photo-transistor after 4 seconds of forced eject.
61	CRGIN time-out (CRGOUT time-out)	10 seconds have elapsed before completing CRGIN operation. (During CRGOUT operation, 10 seconds have elapsed with the cam gear rotating in REV direction.)
62	CRGOUT time-out	10 seconds have elapsed before completing the CRGOUT operation.
63	CRGOUT cam displacement	Position of the CRGOUT complete cam gear has been displaced.
71	ELVUP time-out	2 seconds have elapsed before completing 1-stage UP.
72	ELVDN time-out	2 seconds have elapsed before completing 1-stage DOWN.
74	ELV displacement	At the start of ELV, ELVSNS was not set to low. (In case of starting from the 1st floor, ELHOME was not set to low.)
75	ELV counting error	HLHOME was set to low though not on the 1st floor. (There is a conflict between the floor number stored on the microcomputer and the actual floor number.)
91	LOAD time-out	8 seconds have elapsed before completing the LOAD. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.
96	Settlement of foreign substance	Unauthorized foreign substance such as 8 cm disc has been loaded. An error will be indicated if the disc is still caught by the photo-transistor after 4 seconds of forced eject.

* AVC-LAN Error code : ERROR3

7.1.2 SELF-DIAGNOSTIC FUNCTION

Audio System Service Test

Operation procedures

Purpose of operation	Procedure
How to enter service test mode	Press the "Disc" (or "CD") button three times with the ch "1" and "6" buttons of the H/U (Head Unit) pressed at the same time. (When the service test mode is switched, a beep sound is output.)
How to exit from service test mode	ACC OFF or Long press the "Disc" button for 1.7 seconds.
Execution of re-test	Press the ch "1" button. (The service test is re-executed.)
Cancellation of diagnostic memory	Long press the ch "5" button for 1.7 seconds. (When the diagnostic memory is canceled, a beep sound is output for three seconds.)

When the service test mode is switched, "system test" is performed and each diagnostic memory is collected. From both results, the test results of the current and previous states regarding each connecting equipment of a system are displayed on LCD (liquid crystal display) unit of the H/U.

Contents of display

Display	Original term	Meaning	Remarks
good	Good	Normal	No error code
nCon	No Connection	Unconnected	Although the system recognized responses at registration, there is no response when diagnosis is started.
CHEC	Check	Test	An error code indicating that diagnosis is necessary is entered.
ECHn	Exchange	Exchange	An error code indicating that exchange is necessary is entered.
OLd	Old	Old version	Unit which corresponds to an old diagnostic system
nrES	No Response	No response	Although there is a response when diagnosis is started, there is no reply to diagnostic information.

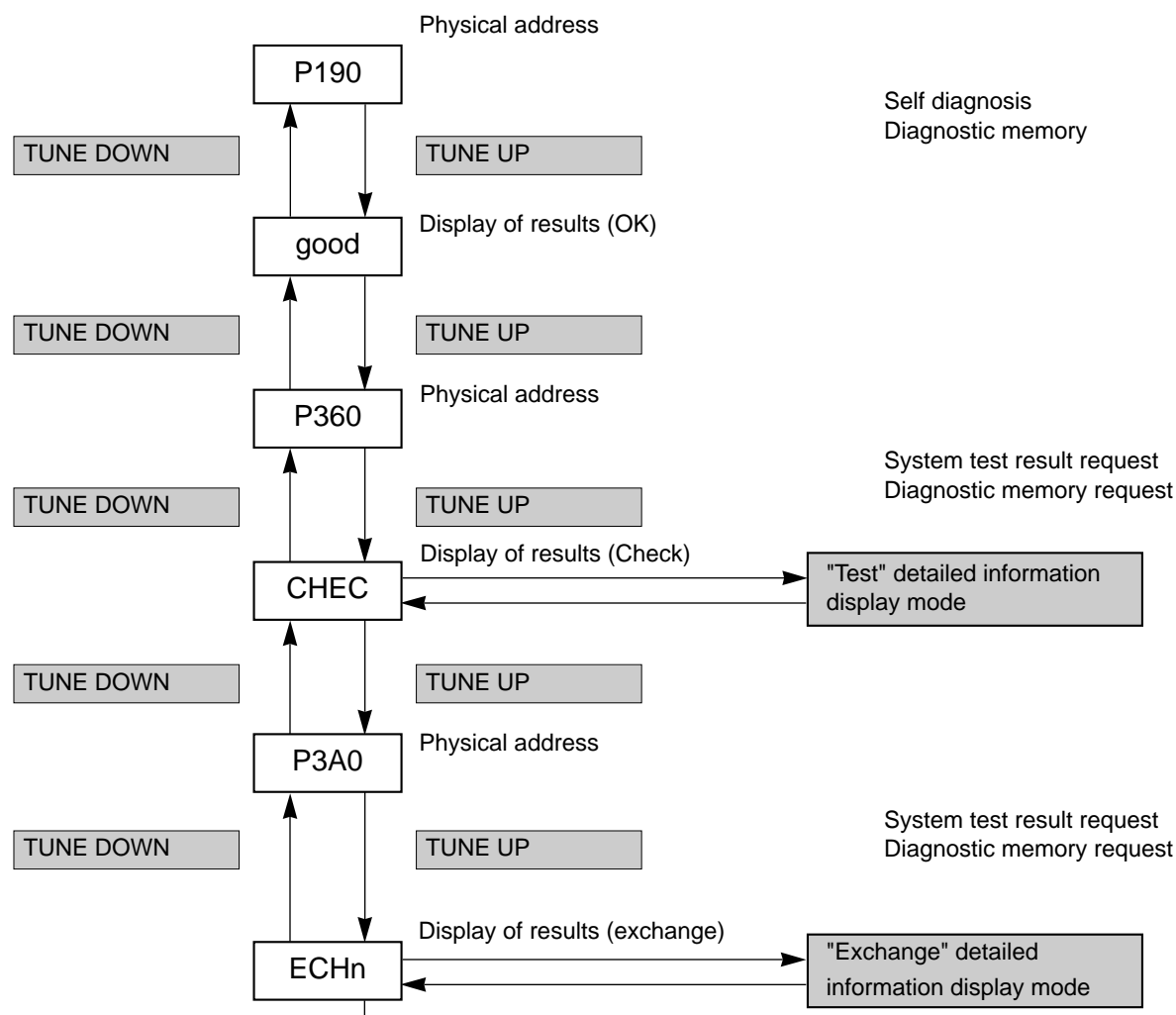
Displaying service test execution results

- The test results every physical addresses (equipment codes) are displayed on the LCD (liquid crystal display) unit of the H/U.
- The contents of display are checked switching them by the "TuneUp" / "TuneDown" button of the H/U.
- If CHEC (test) or ECHn (exchange) is displayed, detailed information is displayed subsequently.

Example of display of test results

Equipment for constructing system A	Equipment code (P: physical address)
Radio cassette	190
CD-CH (CD changer)	360
MD-CH (MD changer)	3A0

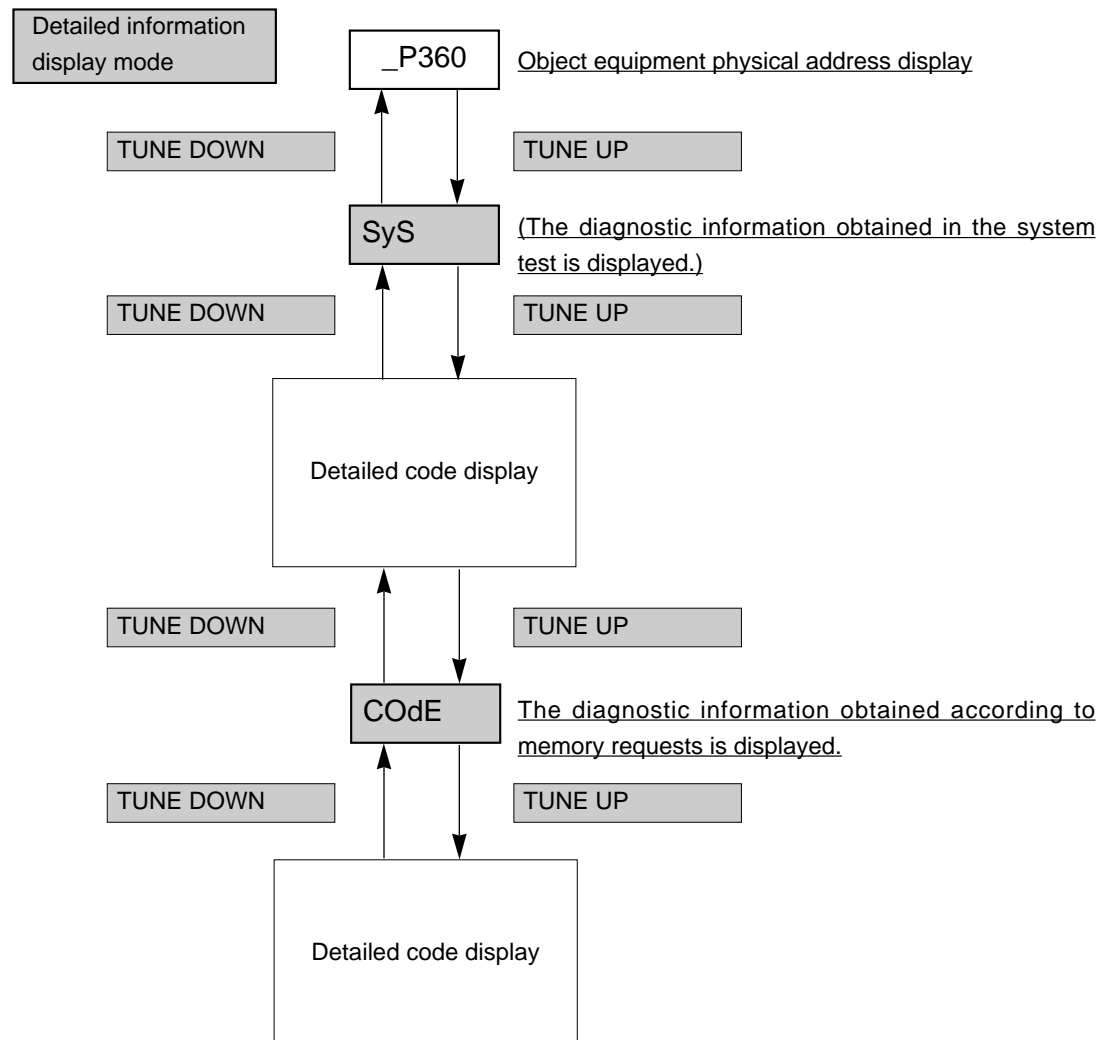
1. Transition of "service test mode" display



2. Transition of "Test detailed information display mode" or "Exchange detailed information display mode" display

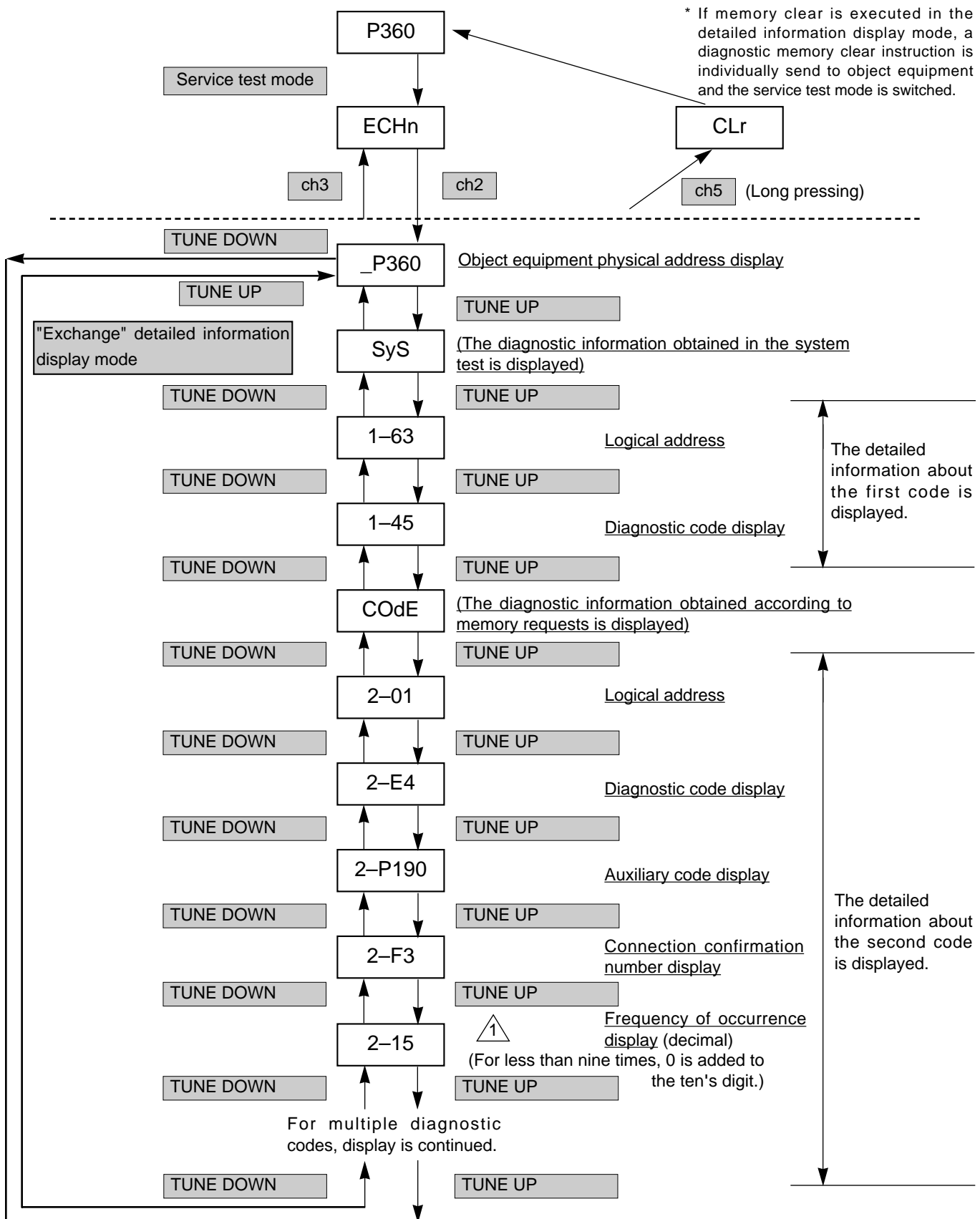
- If the ch "2" button is pressed when "CHEC" (test) or "ECHn" (exchange) is displayed, each detailed information display mode is entered.
- To switch from each detailed information display mode to the "service test mode", press the ch "3" button.
- In each detailed information display mode, "System Test Results" and "Diagnostic Memory Response Results" are discriminated and displayed.

Diagnostic code display classification code	Meaning	Display sequence of detailed information displayed by pressing the "TuneUp"/"TuneDown" button
SyS	After this symbol has been displayed, the results of system test are displayed.	<div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>Logical address display</div> <div>Diagnostic code display</div> </div>
COdE	After this symbol has been displayed, the response results of the diagnostic memory are displayed.	<div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>"TuneUp" ↓ "TuneDown" ↑</div> <div>Logical address display</div> <div>Diagnostic code display</div> <div>Auxiliary code display</div> <div>Connection confirmation number display</div> <div>Frequency of occurrence display</div> </div>



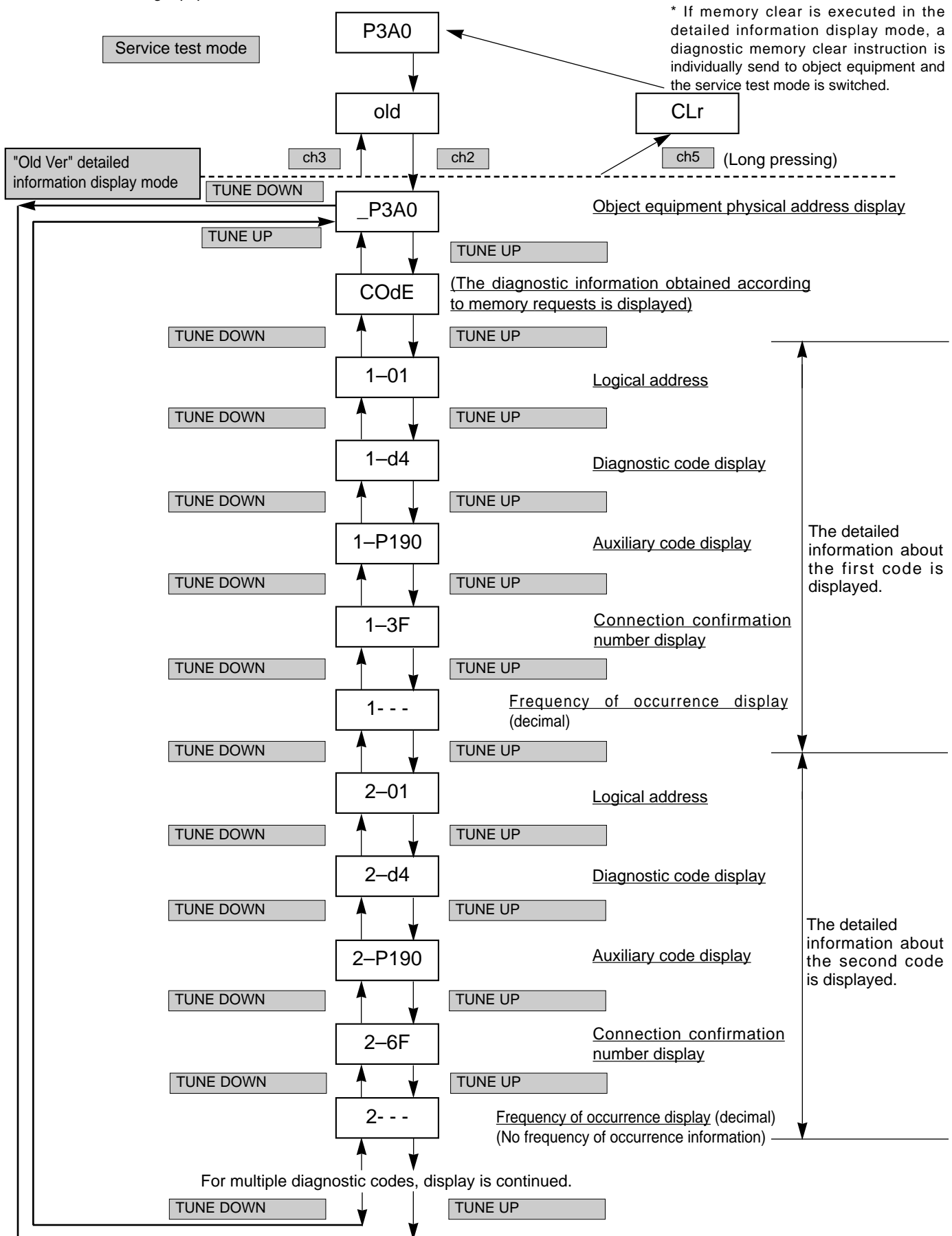
● "Exchange" detailed information screen

Connecting equipment: Radio cassette (PA = 190), CD - CH (PA = 360), MD - CH (PA = 3A0)



● "Old Ver" detailed information display screen

Connecting equipment: Radio cassette (PA = 190), CD - CH (PA = 360), MD - CH (PA = 3A0)



* The detailed code is displayed cyclically.

7.1.3 DISASSEMBLY

● Removing the Case (Fig.1)

- ➡ 1 Remove the six screws and then remove the Holder.
- ➡ 2 Remove the two screws and then remove the Case.

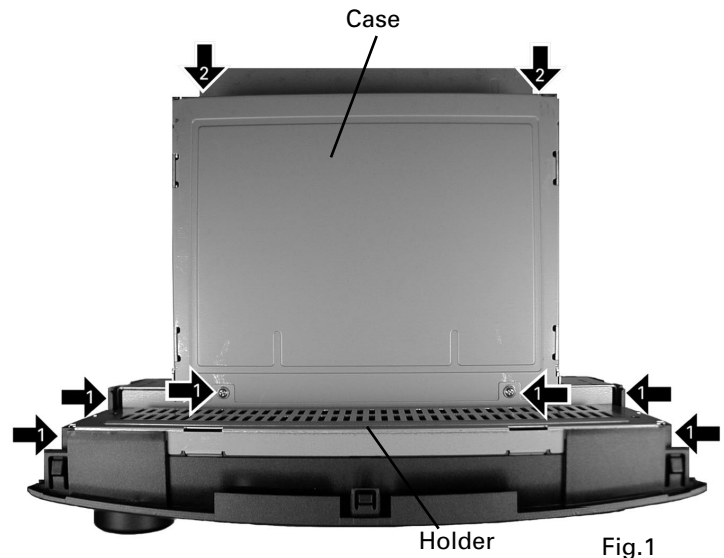


Fig.1

● Removing the Grille Assy (Fig.2)

- ➡ 1 Remove the two screws and then remove the Grille Assy.

● Removing the Cassette Mechanism Module (Fig.2)

- ➡ 2 Remove the four screws and then remove the Cassette Mechanism Module.

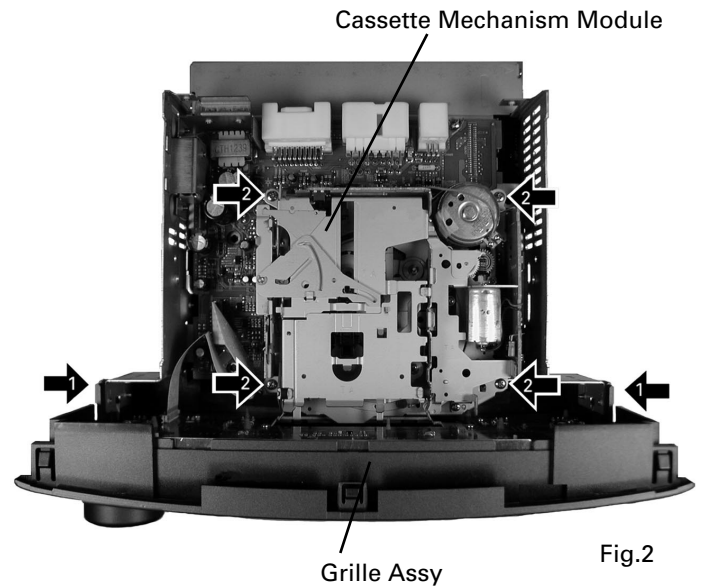


Fig.2

● Removing the Main Unit (Fig.3)

- ➡ 1 Remove the two screws.
- ➡ 2 Straighten the tabs at five locations indicated.
- ➡ 3 Remove the screw and then remove the Main Unit.

* Only the EW model has the Connector (CN803).

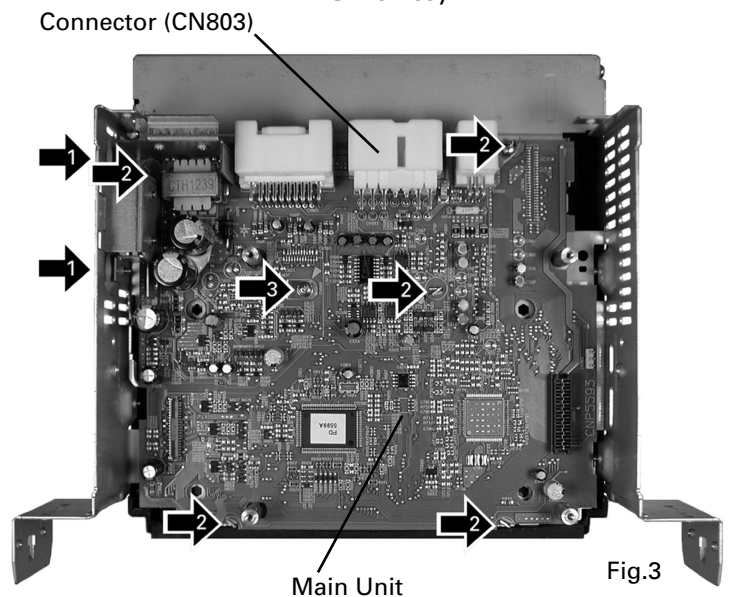
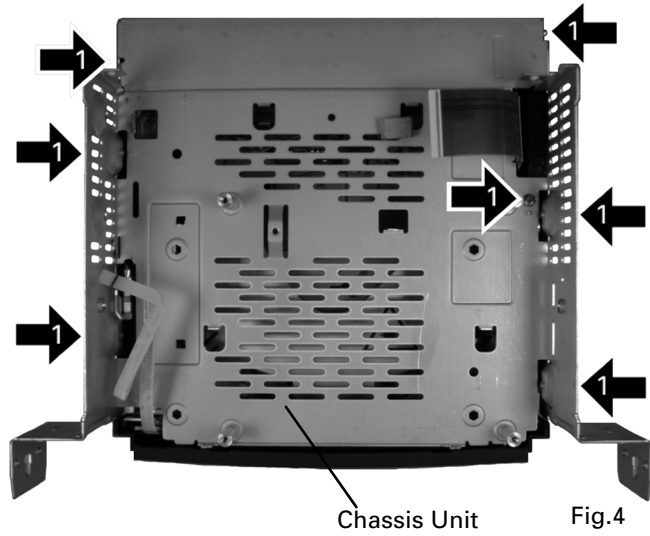


Fig.3

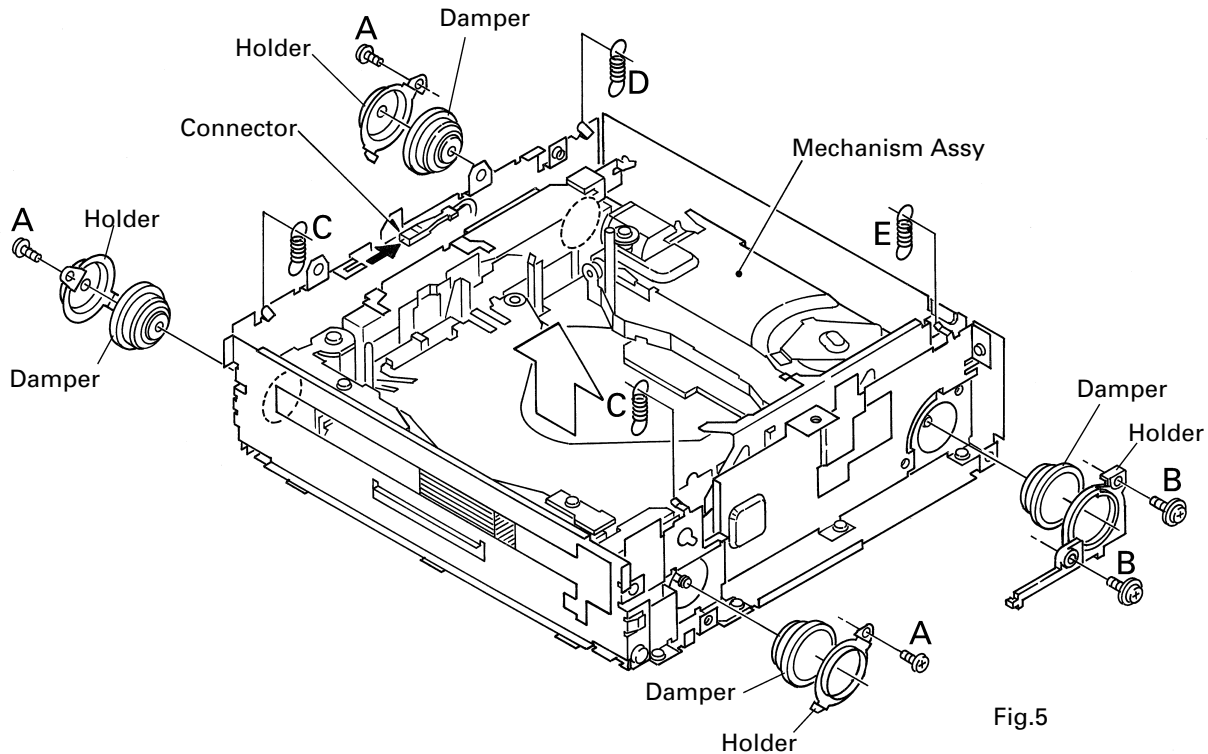
● Removing the Chassis Unit (Fig.4)

- ➡ 1 Remove the seven screws and then remove the Chassis Unit.



● Removing the Mechanism Assy (Fig.5)

1. Disconnect the Connector.
2. Remove the three screws A, and then remove the Holder and Damper.
3. Remove the two screws B, and then remove the Holder and Damper.
4. Remove the two springs C, the spring D and the spring E and then remove the Mechanism Assy.



● How to remove the Tray Assy

1. Apply about 6V current to the Cam gear motor until all holes match at the position (A) (elevation OK position).
 2. Hook the three springs B temporarily as shown in Fig. 6.
 3. Lift up the Tray assy to remove it.
- * Be careful not to remove the Tray hooks from the Tray assy.

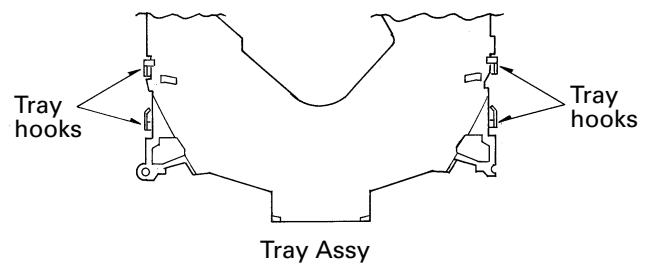
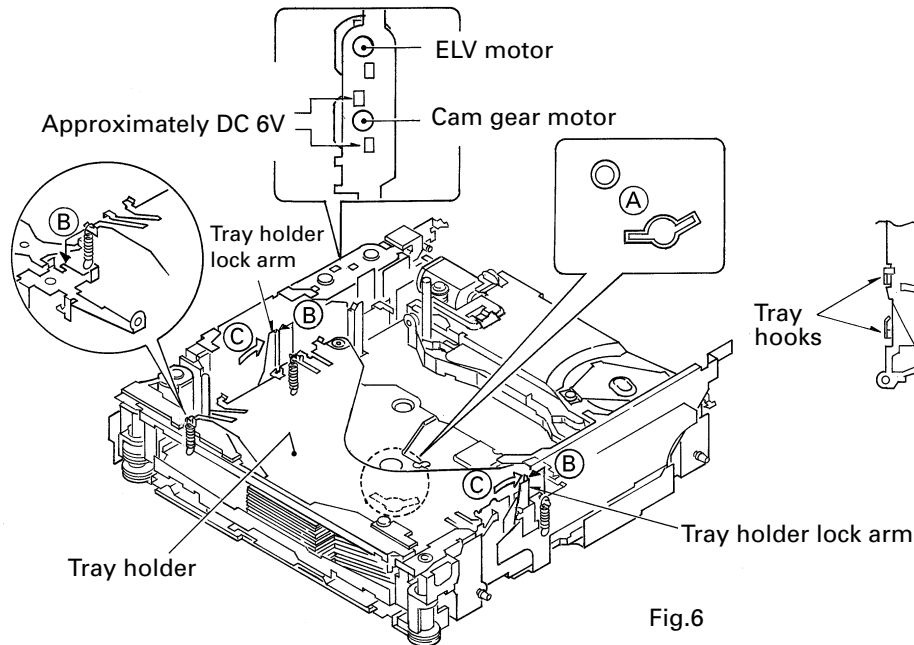


Fig.7

● How to remove the Carriage Mech Assy

1. Insert a short pin into the flexible PCB of the Pickup unit.
 2. While opening the resin hooks, remove the cover from the Servo unit.
 3. Disconnect the flexible PCBs from the connectors CN101 and CN301.
 4. Remove the Tray holder and the Tray assy. (See above)
 5. Rotate the Cam gear motor until the positions of all holes (E) match, then stop the motor. (The Carriage Mech assy will stop as shown in the Fig.8.)
 6. Unhook the spring A.
 7. Remove the flexible holder B (while opening the hooks).
 8. Remove the flexible PCB (C) from the motor. (The flexible PCB (C) has been stuck on the motor with double-sided adhesive tape.)
 9. Loosen the fixing screw and remove the flexible holder.
- * When the positions of all holes match, they will be completely covered by the Carriage mech assy.
- * To rotate the Cam Gear motor, see "How to remove the Tray assy".

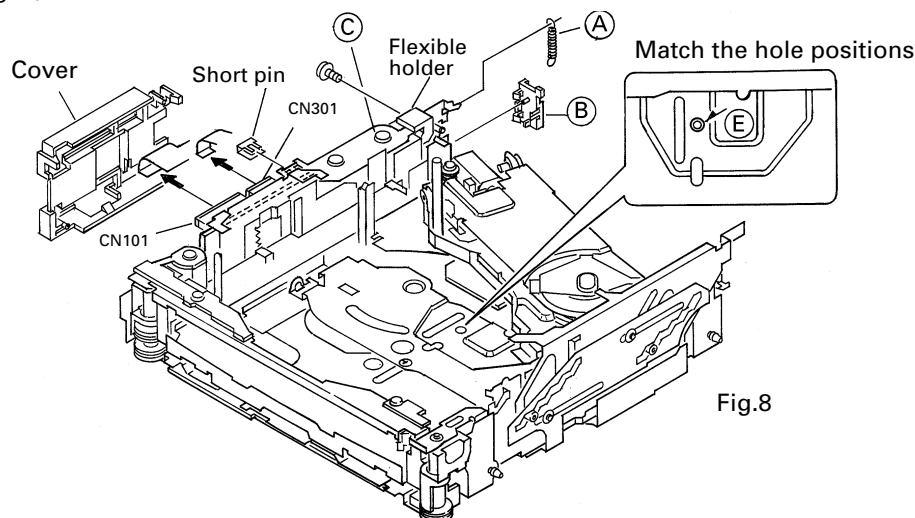


Fig.8

10. Remove the screw, pressure spring and collar. Lift up the Carriage mechanism assy to remove it.

* Screw tightening torque: 2.6kgfcm

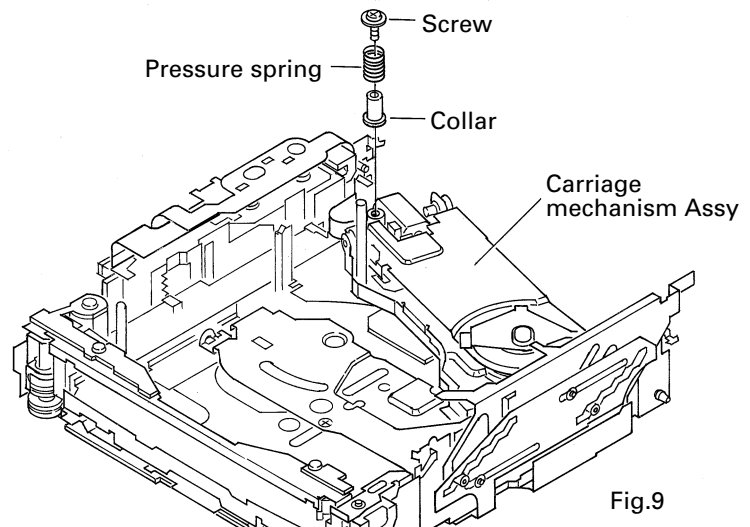


Fig.9

● How to remove the Pickup unit

1. Remove the pulling spring, torsion spring and E-shaped ring. Then remove the Clamper arm.

* The spring (A) will be removed with the Clamper arm.

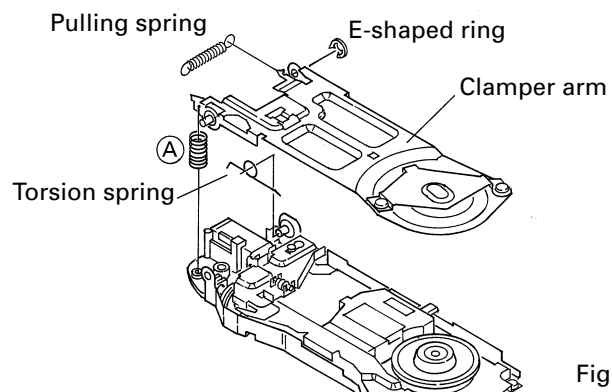


Fig.10

2. Slide the Clamp UP lever (B) to remove it.
3. Loosen the 2 screws. Remove the feed-screw cover by sliding it.
4. Remove the feed-screw pressure spring (D).
5. Loosen the 2 screws. Remove the feed-screw holder (E).
6. Remove the belt.

7. Remove the Pickup unit together with the feed screw.
* Be careful not to lose the shaft holders at the both ends of the feed screw.

* Be careful not to damage the 2 flexible PCBs(for the Pickup and motor) when separating them. The flexible PCBs have been stuck each other with double-sided adhesive tape.

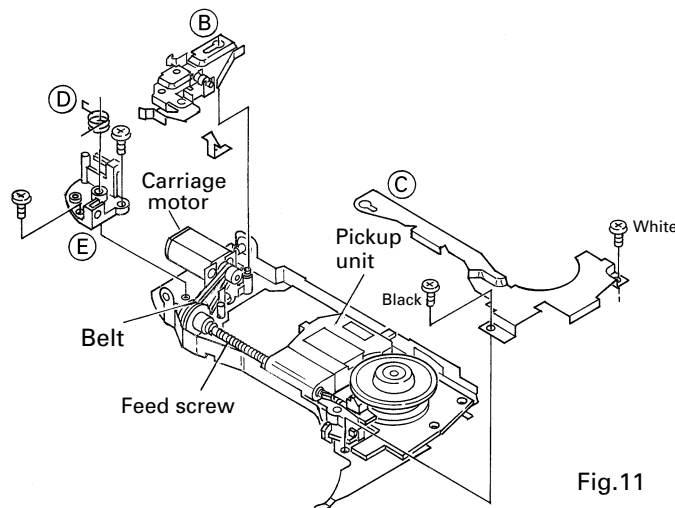


Fig.11

8. Loosen the 2 screws. Remove the plate spring and the rack.
9. Pull out the feed screw from the Pickup unit.

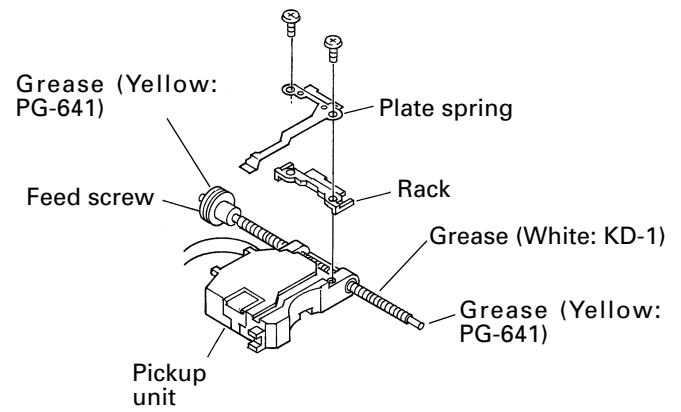
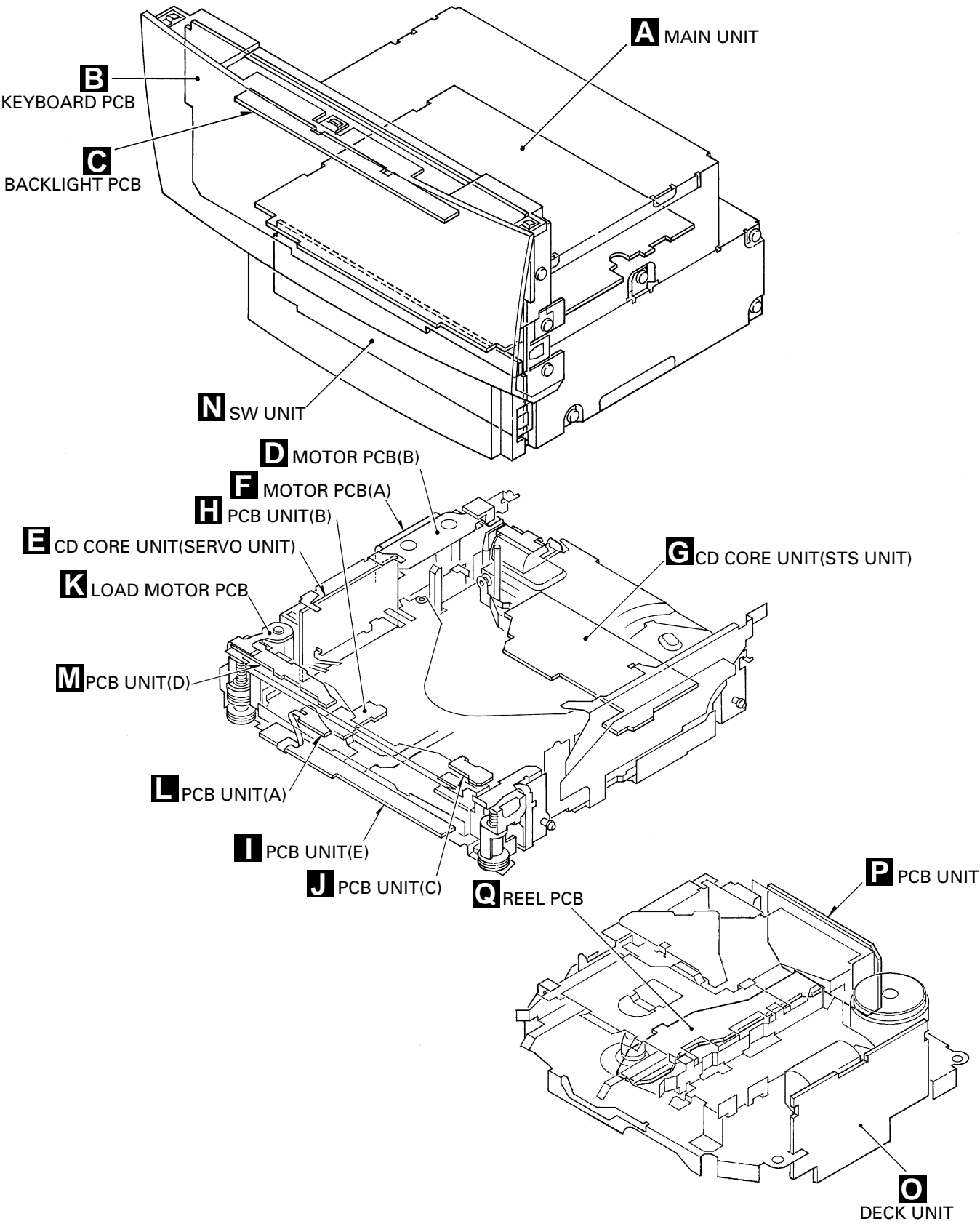


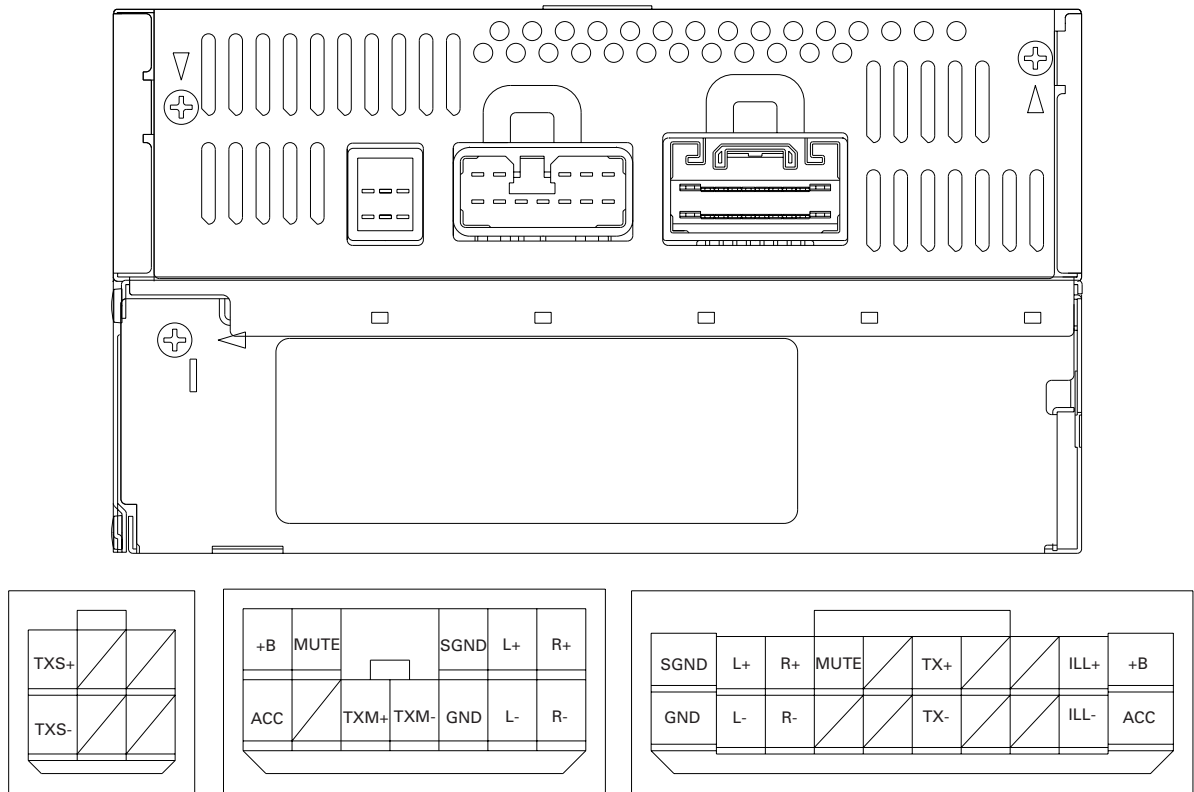
Fig.12

7.1.4 PCB LOCATIONS

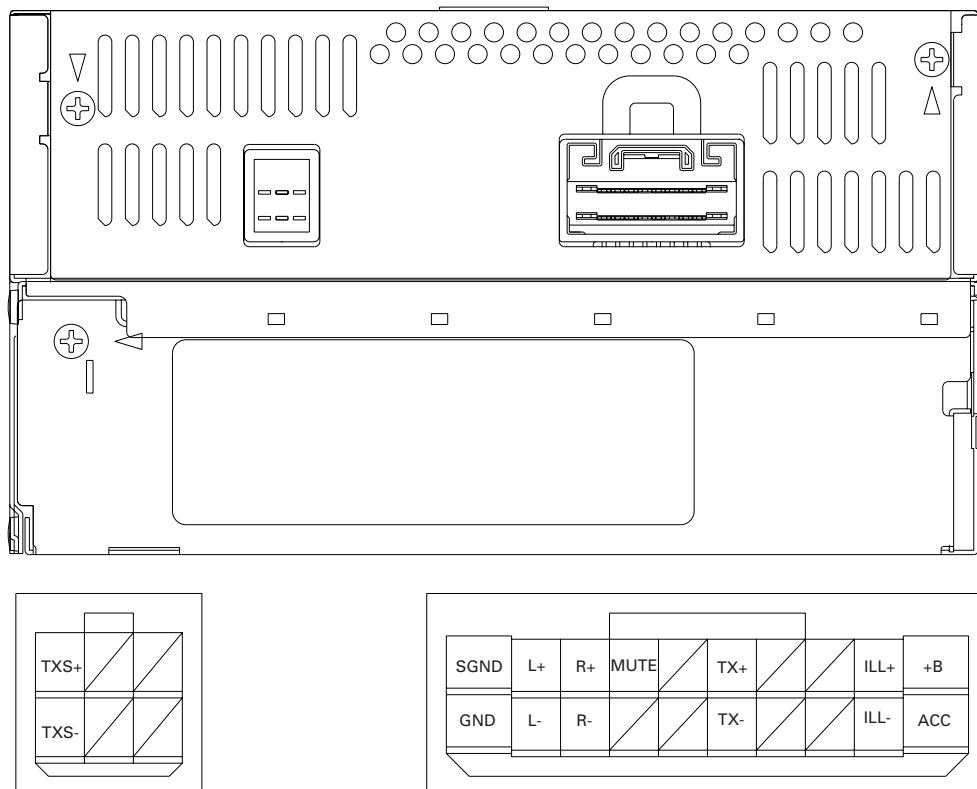


7.1.5 CONNECTOR FUNCTION DESCRIPTION

● FX-MG9106ZT/EW



● FX-MG9106ZT/ES



7.2 PARTS

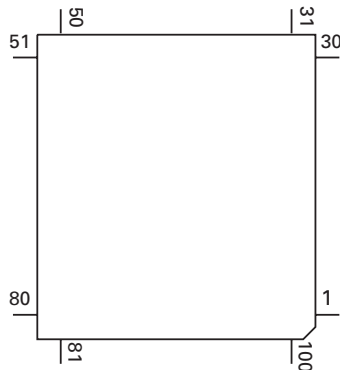
7.2.1 IC

● Pin Functions (PD5556B)

Pin No.	Pin Name	I/O	Function and Operation
1	LOFF	O	LCD driver OFF output
2	ECE		Not used
3	BLIGHT		Not used
4	ILL	O	LAMP power supply control
5	LDO	O	LCD driver data output
6	NC		Not used
7	LCK	O	Clock output for LCD driver
8	BYTE		VCC joint
9	CNVSS		VSS joint
10,11	NC		Not used
12	RESET	I	Reset input
13	XOUT	O	Crystal oscillating element connection pin
14	VSS		GND
15	XIN	I	Crystal oscillating element connection pin
16	VDD		Power supply
17	NHI		VDD joint
18	CDEJ	I	CD eject key sense input
19	ASENS	I	ACC power sense input
20	BSSENS	I	Back up power sense input
21	RX2	I	IE-BUS data input
22	IPPW	O	IP-BUS driver power supply output
23	ILSENS	I	Illumination sense input
24	LCE1	O	Chip enable output pin for LCD driver
25	VDSEL		GND
26,27	NC		Not used
28	BLIGHT		Back Light ON/off
29	RX1	I	IE-BUS data input
30	TX	O	IE-BUS data output
31	BSO	O	P-BUS serial data output
32	BSI	I	P-BUS serial data input
33	BSCK	O	P-BUS clock output
34	NC		Not used
35	BRXEN	I/O	P-BUS reception enable input/output
36	BRST	I	P-BUS reset input
37	BSRQ	O	P-BUS service request output
38,39	NC		Not used
40	LRST	O	LCD driver reset output
41	EPM		Not used
42-44	NC		Not used
45	SWVDD	O	Display microcomputer power supply output
46	CE		Not used
47	SYSMUTE	O	System mute output
48	ANSW	O	Analog SW output
49	CDILL	O	CD illumination output
50	TAPEMUTE	O	Tape mute output
51	MUTE	O	BUS mute output
52	ILLPOW	O	Illumination power supply output
53	DSSILL	O	DSS illumination output
54	POWER	I	POWER key input
55	ENC1+	I	VOL encoder (+) input
56	ENC1-	I	VOL encoder (-) input
57	KD0	I	Key return input
58	KD1	I	Key return input
59	KD2	I	Key return input
60	KD3	I	Key return input
61	KST5	O	Key strobe output
62	VCC		Power supply

Pin No.	Pin Name	I/O	Function and Operation
63	KST4	O	Key strobe output
64	VSS		GND
65	KST3	O	Key strobe output
66	KST2	O	Key strobe output
67	KST1	O	Key strobe output
68	KST0	O	Key strobe output
69	MS	I	Music sense input
70	FR	O	Head forward/reverse select output
71	PLAY	O	MS gain select output
72	MTL	I	Cassette mechanism tape select input
73	DLOAD	I	CDM load key input
74	MDEJ		Not used
75	CSEJ	I	Cassette mechanism tape eject key sense input
76	NR	O	Dolby NR ON/OFF select output
77	CSLOAD	I	Tape loading detect input
78	POS	I	Cassette mechanism position sense input
79	RES	I	Cassette mechanism reverse end sense input
80	NES	I	Cassette mechanism forward end sense input
81	TEST	I	Test mode input
82	SC2	O	Cassette mechanism sub motor control output
83	SC1	O	Cassette mechanism sub motor control output
84	CM	O	Cassette mechanism capstan motor control output
85	STBY	O	Stand-by output
86	ENC2-	I	AUD encoder (-) input
87	ENC2+	I	AUD encoder (+) input
88	MODE	I	AUDIO mode key input
89	BASS	I	A/D converter input from BASS volume
90	TRE	I	A/D converter input from TREBLE volume
91	MID	I	A/D converter input from MID volume
92	FAD	I	A/D converter input from FADER volume
93	BAL	I	A/D converter input from BALANCE volume
94	ILL-	I	Rheostat signal output
95	NC		Not used
96	AVSS		A/D GND
97	ANO		GND
98	VREF	I	A/D converter reference voltage input
99	AVCC		A/D VCC
100	EDI		Not used

*PD5556B



IC's marked by* are MOS type.

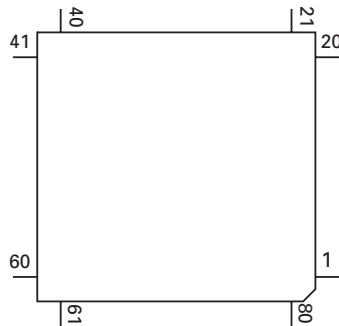
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● Pin Functions (PD5575B)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	VDIN	I		Power supply short sensor input
2	DOORSW	I		Door open position SW input
3	NC			Not used
4	BSRQ	O	C	P-BUS service request output
5	CLAMP	I		DISC clamp SW input
6	ELHOME	I		ELV reset position SW input
7	XSCK	O	C	CD LSI clock output
8	XSO	O	C	CD LSI data output
9	XSI	I		CD LSI data input
10	XSTB	O	C	CD LSI strobe output
11	XRST	O	C	CD LSI reset output
12	XAO	O	C	Control signal distinguishing data from microcomputer
13	VDCONT	O	C	VD control output
14	NC			Not used
15	BSENS	I		Back up power sense input
16	BRXEN	I/O	C	P-BUS reception enable input/output
17	LOADSW	I		Loading position SW input
18	MODESW	I		ELV OK position SW input
19	BSCK	I/O	C	P-BUS serial clock input/output
20	BSO	O	C	P-BUS serial data output
21	BSI	I		P-BUS serial data input
22	BRST	I		P-BUS reset input
23	SBSY	I		Signal indicating head of subcode block
24	CNVSS	I		GND
25	RESET	I		Reset input
26	POWER	O	C	Servo/Mechanism power supply control output
27	CONT	O	C	Servo driver output control
28	Xin	I		Crystal oscillating element connection pin
29	Xout	O	C	Crystal oscillating element connection pin
30	VSS			GND
31-38	NC			Not used
39	TESTIN	I		Chip check program mode input
40	DCLOSE	I		Door close sense input
41	WDSL	O	C	Data comparison area specification signal output
42	XWIH	I		Data write inhibit input
43	XEMP	I		Data read inhibit input
44	CHDT	I		Data comparison mode monitor input
45	CHM0	O	C	Data comparison mode output 0
46	CHM1	O	C	Data comparison mode output 1
47-49	NC			Not used
50	XWRE	O	C	DRAM WRT ENBL
51	XRDE	O	C	DRAM READ ENBL
52	XQOK	O	C	SUB-Q OK output
53	EMPH	O	C	DAC emphasis output
54	SCONT	O	C	Mode select output
55	LOAD	O	C	PHOT power supply control
56	CDMUTE	O	C	CD mute output
57	LO2	O	C	LOAD motor control terminal output 2
58	LO1	O	C	LOAD motor control terminal output 1
59	ELV2	O	C	ELV motor control terminal output 2
60	ELV1	O	C	ELV motor control terminal output 1
61	CG2	O	C	CAM motor control terminal output 2
62	CG1	O	C	CAM motor control terminal output 1
63	MIRR	I		CD LSI mirror detector input
64	LOCK	I		CD LSI spindle lock detector input
65	FOK	I		CD LSI FOK signal input
66-68	NC			Not used
69	ADENA	O	C	A/D reference voltage output

Pin No.	Pin Name	I/O	Format	Function and Operation
70	NC			Not used
71	VCC			VDD
72	VREF	I		A/D converter reference voltage input
73	AVSS			A/D GND
74	ADRMON	I		The remainder amount address monitor input
75	EREF			DRAM A/D reference voltage
76	PH1	I		Disc photo sense input 1
77	PH2	I		Disc photo sense input 2
78	PH3	I		Disc photo sense input 3
79	ELVSNS	I		ELV position photo sense input
80	TEMP	I		Temperature detector input

*PD5575B

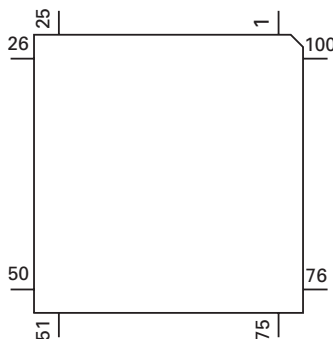


Format	Meaning
C	C MOS

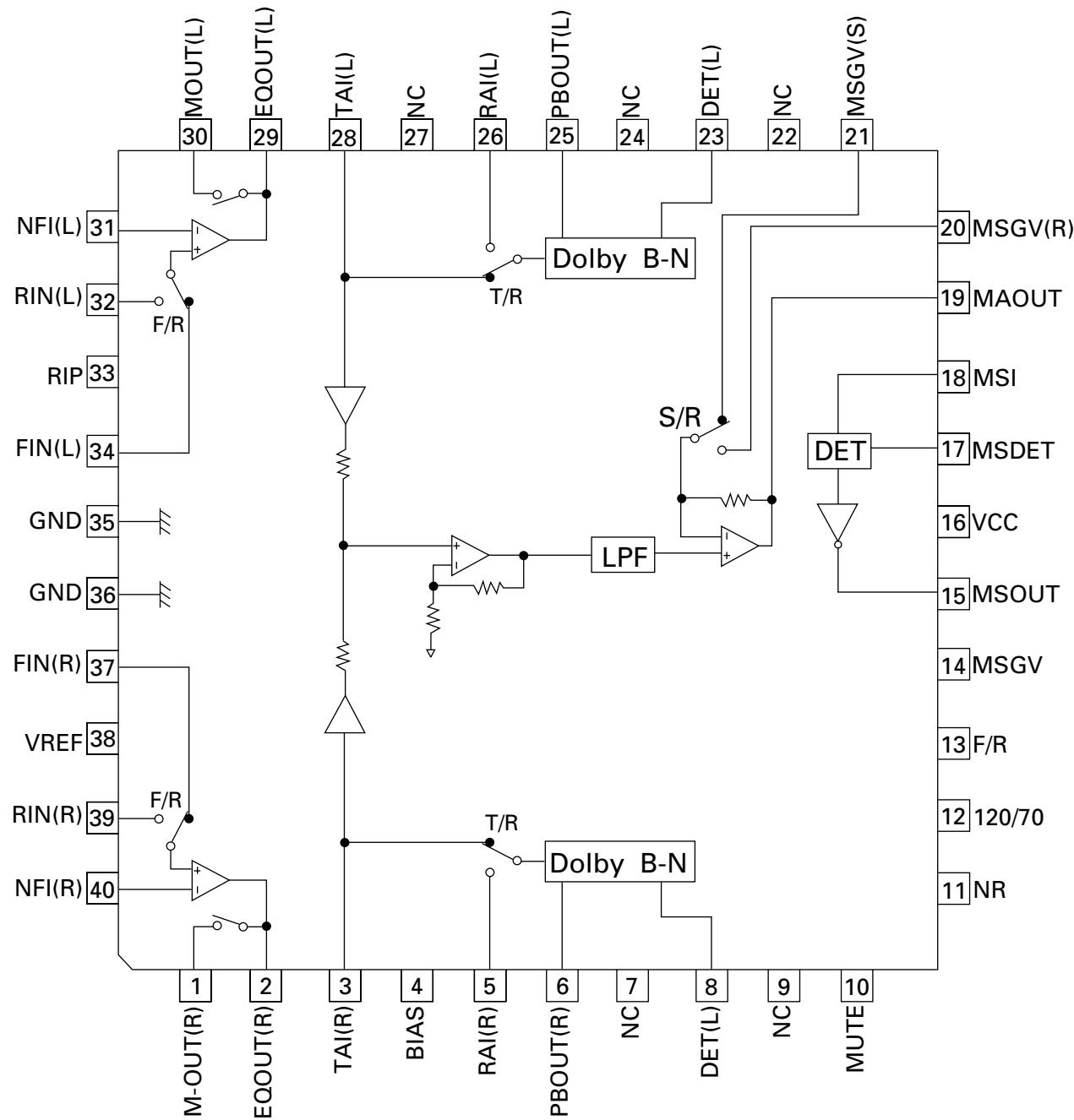
● Pin Functions (LC75804W)

Pin No.	Pin Name	I/O	Function and Operation
1-73	SEG01-73	O	LCD segment signal output
74-77	COM4-1	O	LCD common signal output
78,79	SEG75,76		Not used
80-83	KS3-6		Not used
84-88	KI1-5	I	Key scan input
89	VDD		Power supply
90	VLCD		Power supply for LCD driver
91	VLCD1	I	LCD drive bias impressed voltage (2/3) input
92	VLCD2	I	LCD drive bias impressed voltage (1/3) input
93	VSS		GND
94	TEST		GND
95	OSC	I/O	Oscillator terminal
96	RES	I	Reset signal input
97	DO		Not used
98	CE	I	Chip enable input
99	CL	I	Synchronizing clock input
100	DI	I	Transfer data input

*LC75804W

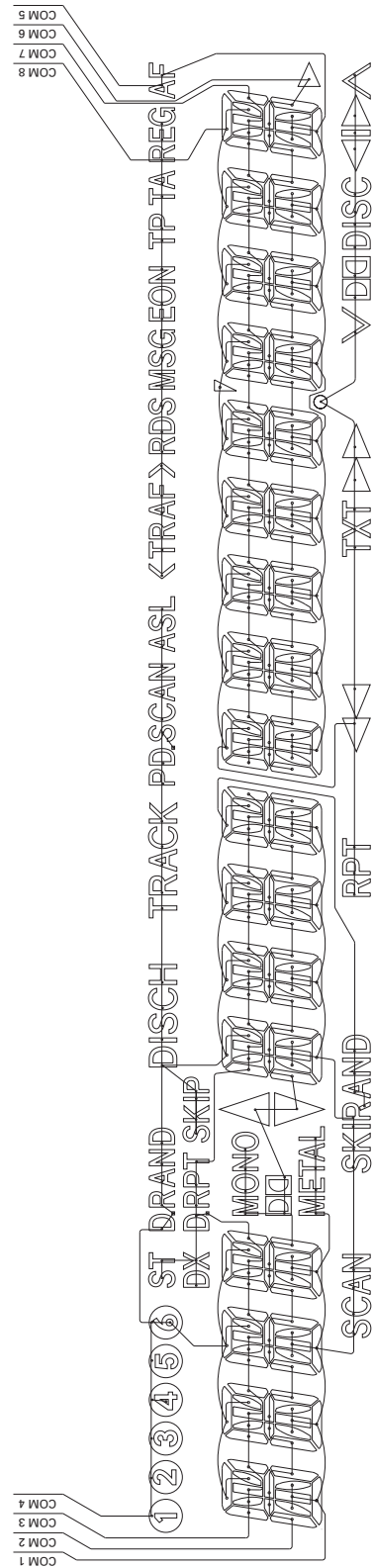
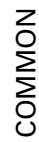
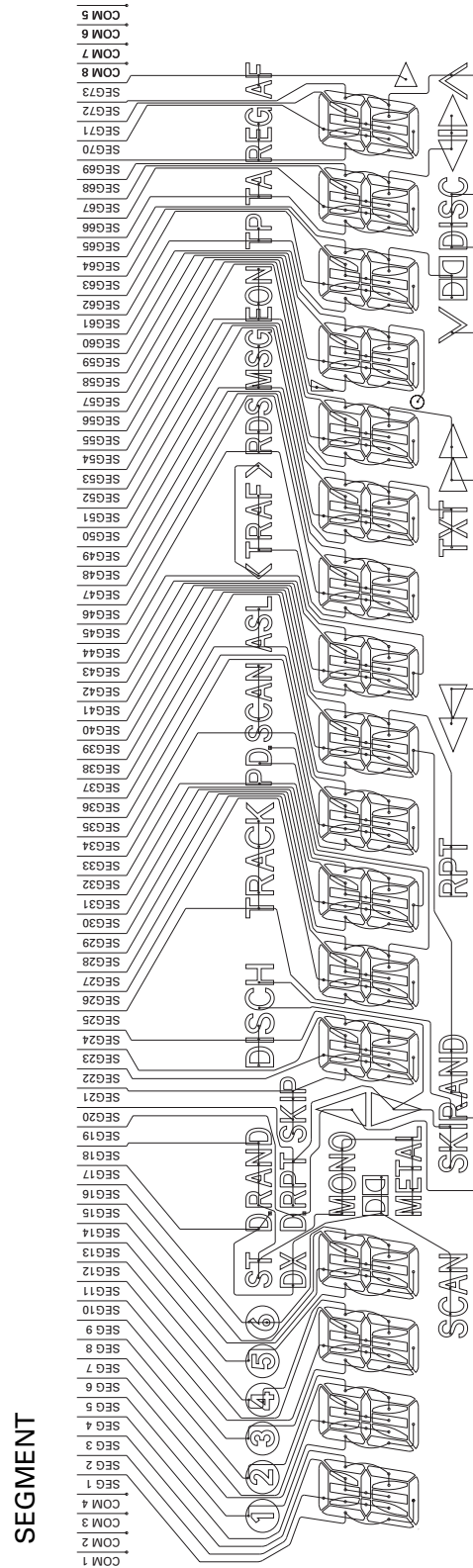


HA12216F



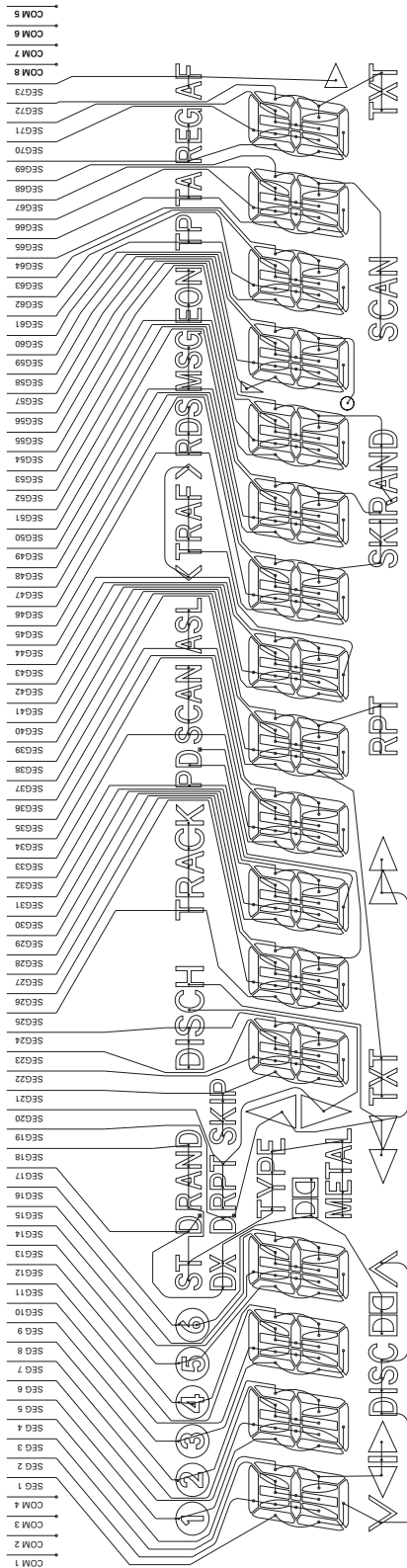
7.2.2 DISPLAY

- CAW1582 (FX-MG9106ZT/EW)

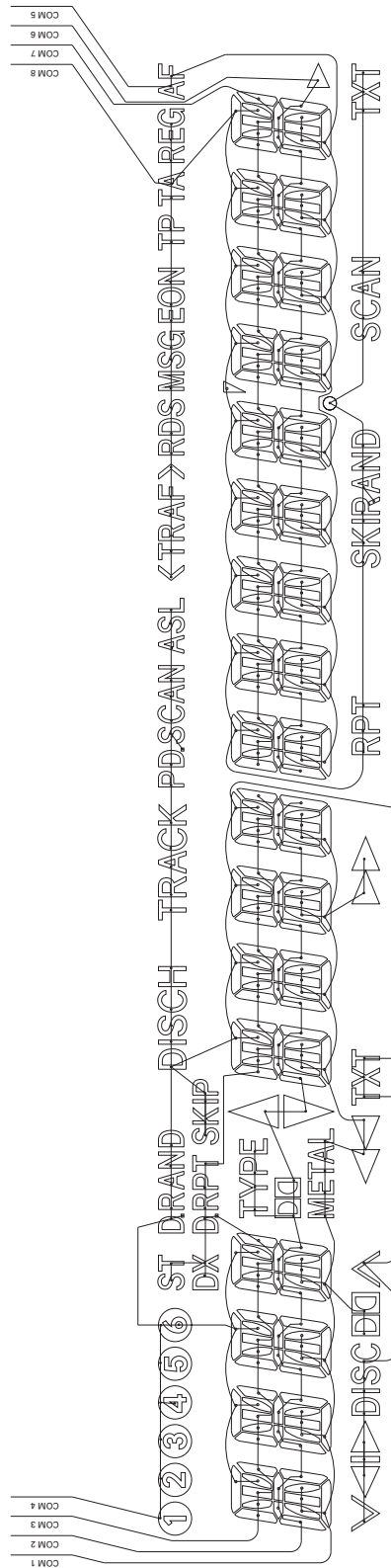


● CAW1591 (FX-MG9106ZT/ES)

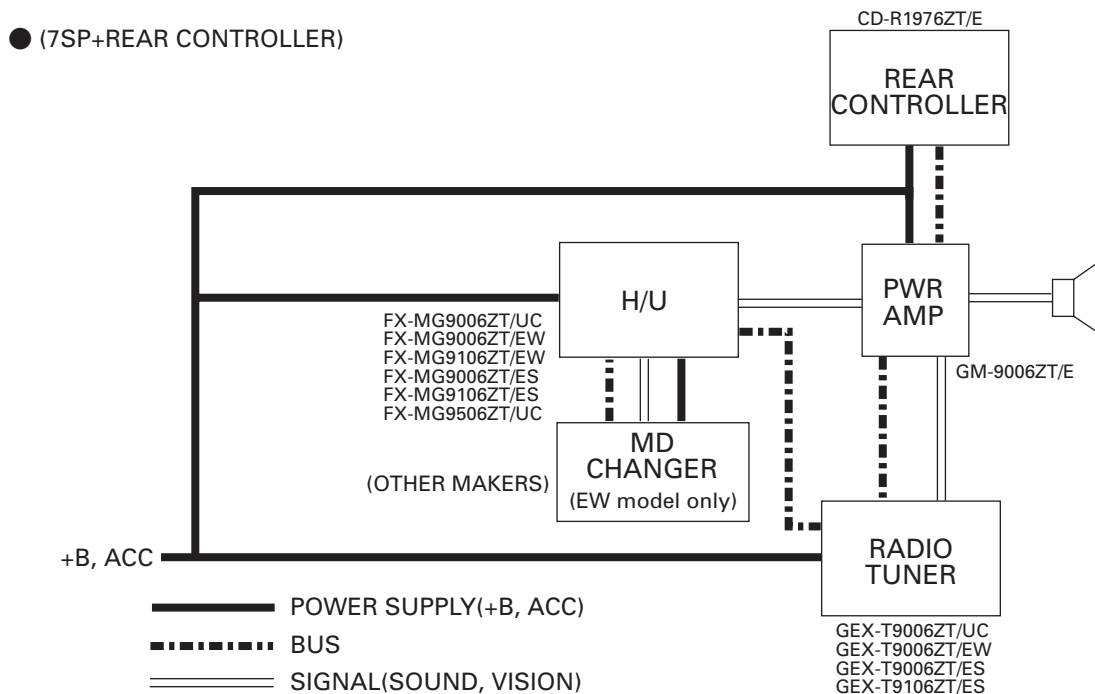
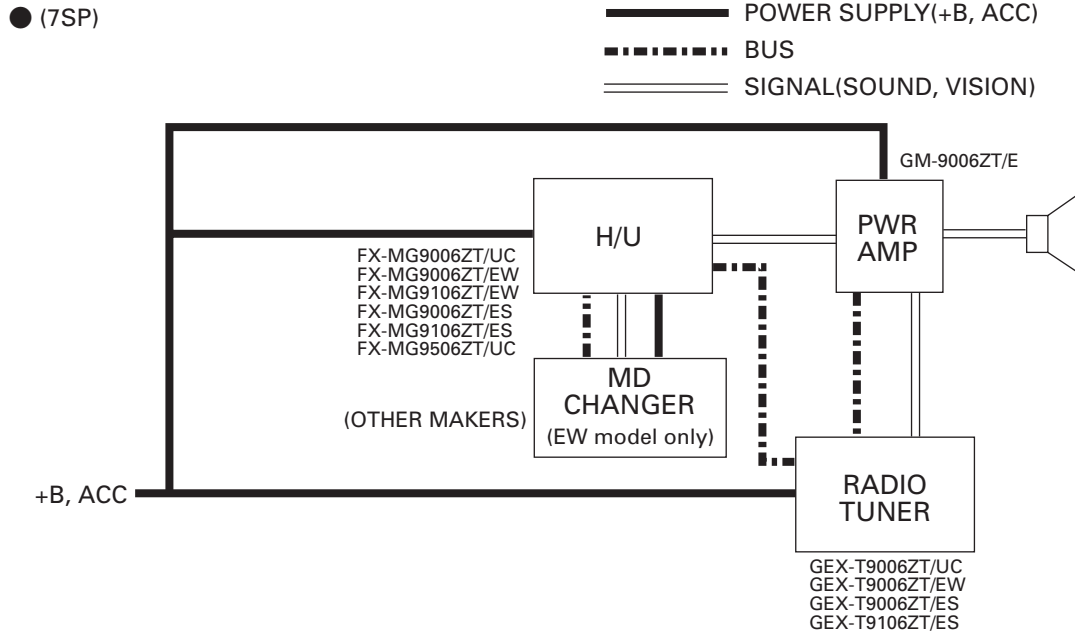
SEGMENT



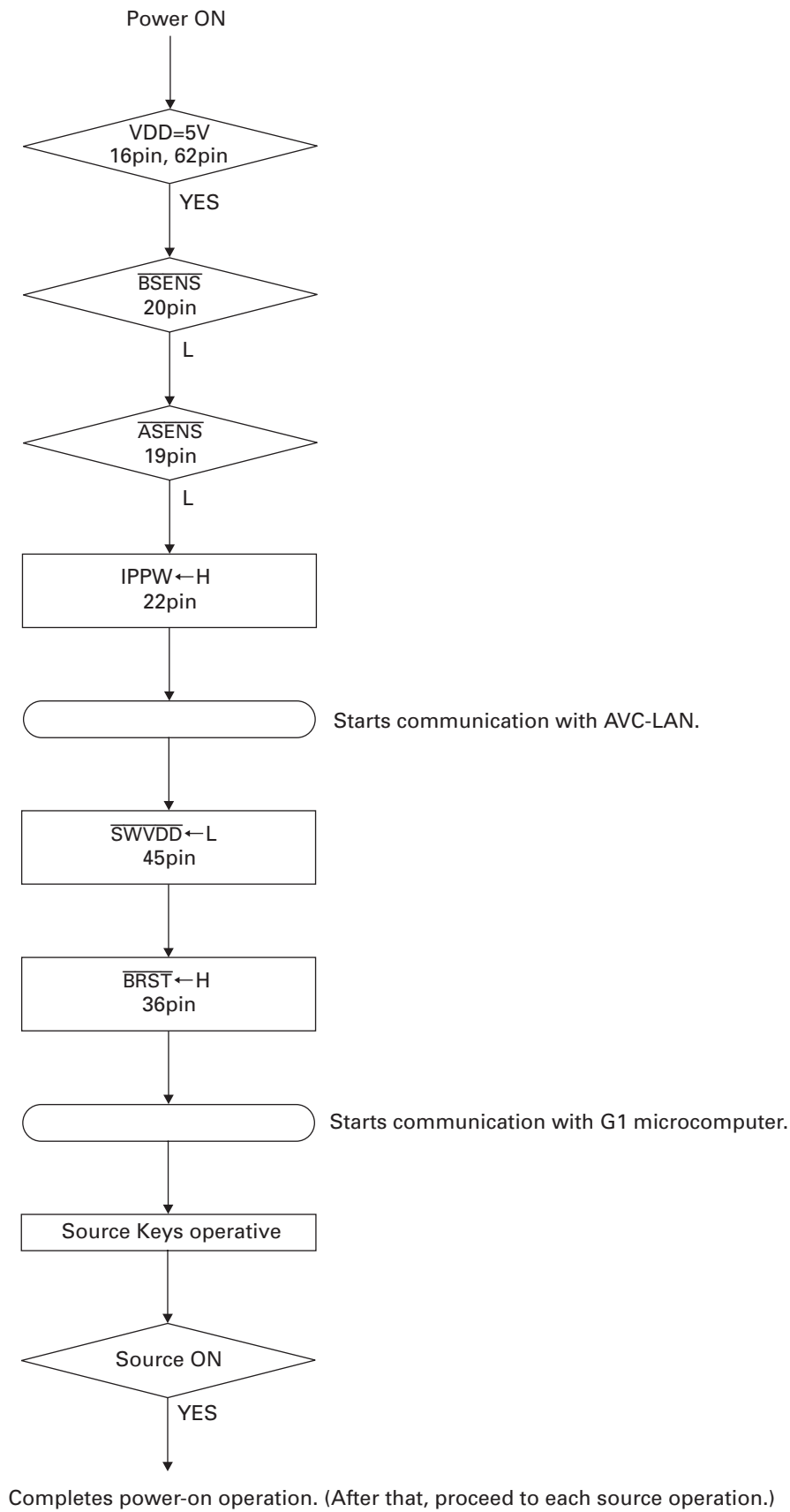
COMMON



7.3 SYSTEM BLOCK DIAGRAM



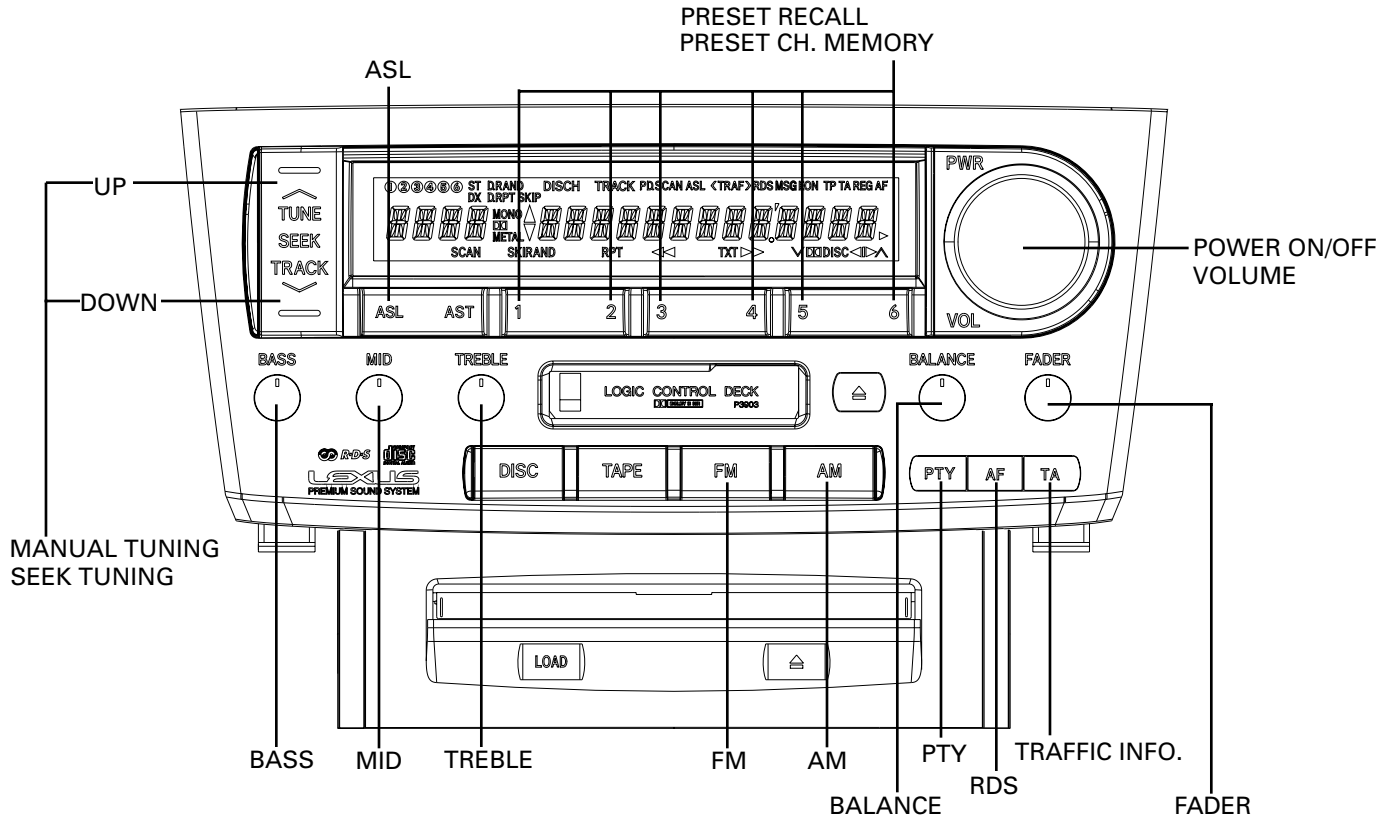
7.4 OPERATIONAL FLOW CHART



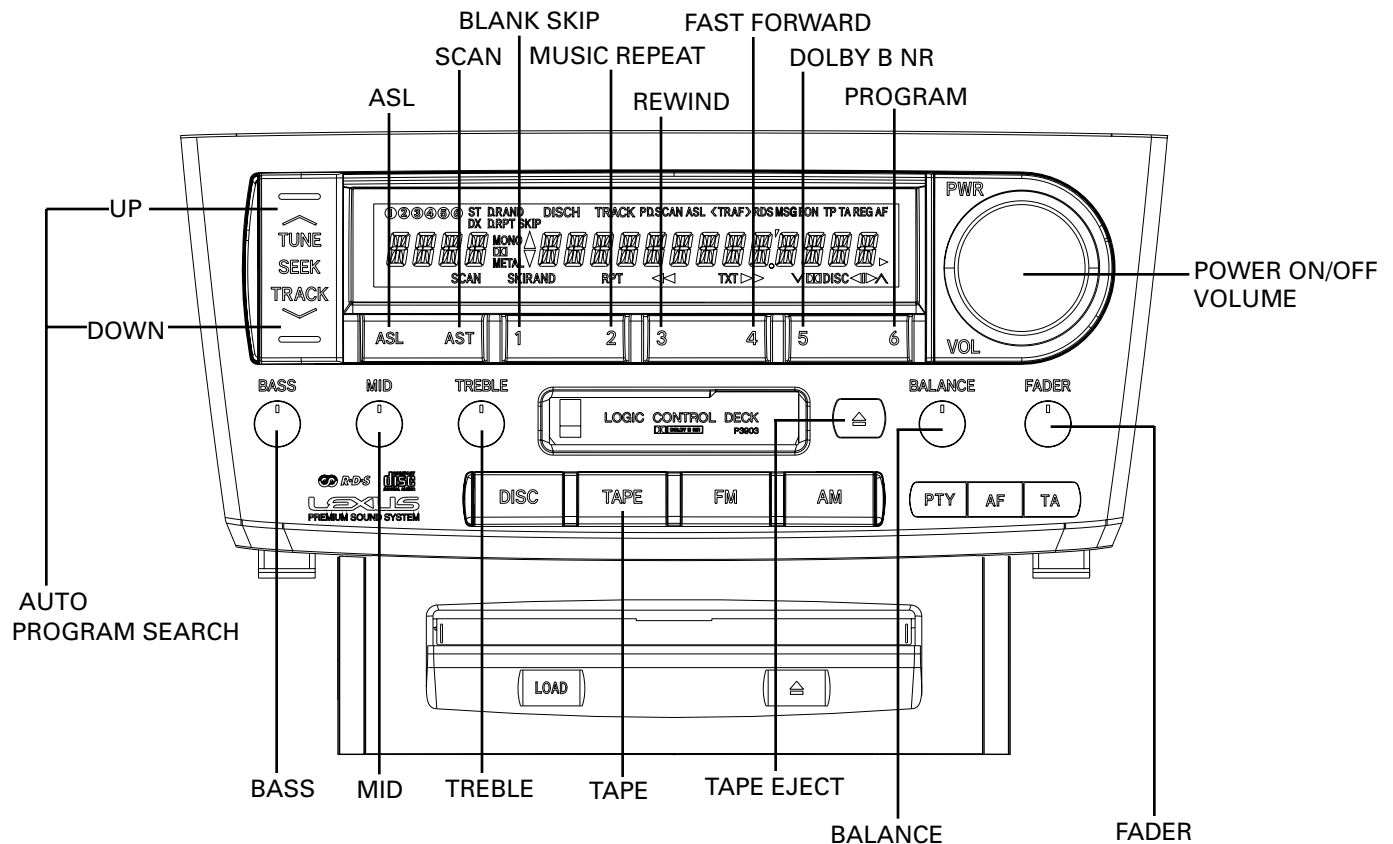
8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS (FX-MG9106ZT/EW)

● RADIO



● TAPE





SystemCompact disc audio system
Usable discsCompact disc
Signal formatSampling frequency : 44.1kHz
.....Number of quantization : 16;linear
S/N70dB or more
Distortion.....0.2% or less

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